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# TRANSCRIPT OF RECORD.

## SUPREME COURT OF THE UNITED STATES.

**OCTOBER TERM, 1885.**

No. 164

THE COLLINS COMPANY, APPELLANT,

*vs.*

LORING COES AND MELVIN O. WHITTIER, PARTNERS UNDER THE NAME AND STYLE OF LORING COES & COMPANY.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE DISTRICT OF MASSACHUSETTS.

**FILED OCTOBER 20, 1885.**

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1 UNITED STATES OF AMERICA, } ss:
*Massachusetts District,*

At a circuit court of the United States for the first circuit, begun and holden at Boston, within and for the district of Massachusetts, on Thursday, the fifteenth day of May, in the year of our Lord one thousand eight hundred and eighty-four, before the Honorable Horace Gray, associate justice, and the Honorable Thomas L. Nelson, district judge.

THE COLLINS COMPANY, Complainant, }
*v.* } In Equity.
LORING COES *et al.*, Defendants. }

The bill of complaint in this cause was filed in the clerk's office on the fifth day of June, A. D. 1875, and was duly entered at the May term of this court, A. D. 1875.

2 *Bill of Complaint.* (*Filed June* 5, 1875.)

(MEMORANDUM.—This bill was amended by stipulation filed April 16, 1878, which stipulation, with the amended bill, etc., is hereinafter recorded. The original bill, being superseded by the amended bill, is not recorded at length. The original bill is signed as follows:

THE COLLINS COMPANY,
By W. J. WOOD,
*Vice-President and Chief Executive Officer.*

B. F. THURSTON,
W. E. SIMONDS,
*Solicitors and of Counsel.*

The original bill is sworn to May 14, 1875, before Edwin E. Marvin, commissioner of U. S. circuit court for district of Connecticut.—J. G. S., clerk.)

On the fourth day of October, A. D. 1875, the defendants filed their answer to the bill of complaint in this cause:

*Answer.* (*Filed Oct.* 4, 1875.)

(MEMORANDUM.—This answer was amended by stipulation filed April 16, 1878, which stipulation, with the amended answer, etc., is hereinafter recorded. The original answer, being superseded
2*a* by the amended answer, is not recorded at length. The original answer is signed as follows:

LORING COES.
MELVIN O. WHITTIER.

GEORGE L. ROBERTS & BROS.,
*Solicitors and of Counsel.*

The original answer is sworn to Oct. 2, 1875, before Edwin W. Brown, notary public.—J. G. S., clerk.)

This cause was thence continued to the October term of this court, A. D. 1875, when the following replication was filed:

*Replication.* (*Filed Oct.* 22, 1875.)

The replication of the above-named complainant to the answer of said respondents.

This repliant, saving and reserving to itself now and at all times hereafter all and all manner of benefit and advantage of exception which may be had or taken to the manifold insufficiencies of the said answer, for replication thereunto says that it will aver, maintain, and prove its said bill of complaint to be true, certain, and sufficient in the law to be answered unto, and that said answer of said defendants is uncertain, untrue, and insufficient to be replied unto, without this, that any other matter or thing whatever in said answer contained material or effectual in the law to be replied unto and not herein and hereby well and sufficiently replied unto, confessed and avoided, traversed or denied, is true; all which matters and things this repliant is and will be ready to aver, maintain, and prove as this honorable court may direct, and humbly prays as in and by said bill it has already prayed.

WM. EDGAR SIMONDS,
*Solicitor for Complainant.*

3 This cause was thence continued from term to term to the October term, A. D. 1877, when, on the sixteenth day of April, A. D. 1878, the following stipulation was filed:

*Stipulation Amending Bill and Answer.* (*Filed April* 16, 1878.)

For the purpose of eliminating from said suit the various patents granted to Luke Chapman it is hereby stipulated that the bill and answer be, and hereby are, amended so that the same, with the exception of the signatures, shall read as follows, to wit:

*Amended Bill of Complaint.*

To the honorable the judges of the United States for the first circuit within and for the district of Massachusetts, sitting in chancery:

The Collins Company, a corporation duly chartered by the State of Connecticut, located and doing business in the village of Collinsville, in the town of Canton, the county of Hartford, and State of Connecticut, a citizen of the State of Connecticut, brings this its bill of complaint against Loring Coes and Melvin O. Whittier, of the city of Worcester, in the county of Worcester and State of Massachusetts, they being citizens of said State of Massachusetts, partners in business at said city of Worcester under the name and style of "Loring Coes & Company."

And thereupon your orator complains and says that prior to Oct. 10, A. D. 1865, Lucius Jordan and Leander E. Smith, citizens of the United States, were the true, original, first, and joint inventors of

certain new and useful improvements pertaining to wrenches, which said improvements were not known or used by others before the invention and discovery thereof by the said Lucius Jordan and Leander E. Smith and had not been, at the time of their application for letters patent thereon, as hereinafter mentioned, in public use or on sale with their consent and allowance for more than two years prior to their said application; and said Jordan and Smith, being, as aforesaid, the true, original, first, and joint inventors of said improvements pertaining to wrenches, made application to the Com-
4 missioner of Patents of the United States for letters patent thereon in due form of law. Whereupon such due and legal proceedings were had that letters patent of the United States number 50364, dated Oct. 10, 1865, were issued to said Jordan and Smith, in due form of law, under the seal of the Patent Office, signed by the then Secretary of the Interior and countersigned by the then Commissioner of Patents, whereby was granted and secured to said Jordan and Smith, their executors, administrators, and assigns, or intended so to be, for the term of seventeen years from and after the day of the date of said letters patent, the full and exclusive right and liberty of making, using, and vending to others to be used, the said improvements pertaining to wrenches as set forth in said letters patent, and by virtue of which said Jordan and Smith became and were the sole owners of the rights and privileges granted and secured or intended so to be in and by the said letters patent, as by a duly authenticated copy of said patent, here in court to be produced if required, will fully appear.

And your orator further shows unto your honors that by assignment in writing signed by said Jordan and said Smith, dated June 1, A. D. 1866, the said Jordan and Smith, for a valuable consideration, conveyed to your orator all their right, title, and interest in and to the said invention secured by the said letters patent in and for the whole United States of America, with the exclusive right and license to manufacture, use, and vend the said improvements pertaining to wrenches during the unexpired term of said patent, as by said assignment or a duly authenticated copy thereof, here in court to be produced if required, will more fully appear; and your orator has ever since been the sole owner of said letters patent and of the reissue thereof hereinafter mentioned and of the rights and privileges secured thereby.

And your orator further shows unto your honors that, having for good and lawful cause surrendered said last-mentioned letters patent to the Commissioner of Patents, and having made due application therefor, and having in all things complied with the acts of Congress in such case made and provided, your orator did, on the twenty-second day of February, A. D. 1870, obtain new and reissued letters patent for the same invention for the residue of said term of
5 seventeen years from the tenth day of October, A. D. 1865, which were marked and numbered "reissue No. 3852," dated Feb. 22, 1870, and were issued in due form of law, under the seal of the Patent Office, signed by the then Secretary of the Interior and countersigned by the then Commissioner of Patents, as by a duly au-

thenticated copy of said reissued letters patent, here in court to be produced if required; will more fully appear.

And your orator further shows unto your honors that, having for good and lawful cause surrendered said last-mentioned reissued letters patent to the Commissioner of Patents, and having made due application therefor, and having in all things complied with the acts of Congress in such case made and provided, your orator did, on the twenty-fifth day of February, 1873, obtain new and reissued letters patent for the same invention for the residue of said term of seventeen years from the tenth day of October, A. D. 1865, which were marked "reissue No. 5294," dated Feb. 25, 1873, and were issued in due form of law, under the seal of the Patent Office, signed by the then acting Secretary of the Interior and countersigned by the then Commissioner of Patents, as by said reissued letters patent No. 5294 or a duly authenticated copy thereof, ready here in court to be produced by your orator if required, will fully appear; and your orator has been the sole owner of all the rights and privileges granted and secured by said last-mentioned letters patent ever since the date and issue thereof.

And your orator further shows unto your honors that the said improvements and invention patented as aforesaid have hitherto been in the exclusive possession of your orator or its said grantors, and have hitherto been and still are of great value and profit to your orator, and but for the infringements hereinafter complained of your orator would be in the undisturbed possession and enjoyment of all the said letters patent and all the rights and privileges granted and secured thereby; yet the said defendants, as your orator is informed and believes, well knowing the premises, but contriving to injure your orator, and without its consent or allowance and without right and in violation of your orator's said rights, have, at Worcester, within the State of Massachusetts, and at other places within the United States, since the twenty-fifth day of Feb-
6 ruary, A. D. 1873, made, used, and vended, and are still making, using, and vending, to others to be used large numbers of wrenches, but how many your orator cannot state, but prays that said defendants may discover and set forth the number, containing substantially the improvement and invention or a material part thereof set forth and patented in and by said reissued letters patent No. 5294, dated Feb. 25, 1873; and thereby said defendants have infringed and still do infringe, and your orator fears that in the future they will continue to infringe, upon said reissued letters patent No. 5294, dated Feb. 25, 1873, and upon the exclusive rights and privileges secured to your orator in said letters patent as aforesaid.

To the end, therefore, that said defendants may, if they can, show why your orator should not have the relief herein prayed, and may, according to the best and utmost of their knowledge, remembrance, information, and belief, full, true, direct, and perfect answer make to all and singular the premises; and that they may be decreed to account for and pay over to your orator all gains and profits realized by them from the unlawful making, using, putting in practice,

or vending the improvements vested in your orator as aforesaid; and may also be decreed to pay to your orator such damage as your orator has thereby sustained, and may be perpetually restrained by an injunction to be issued out of this honorable court from making, using, vending, constructing, or putting in practice the invention and improvements or any material or substantial part thereof set forth and claimed in the letters patent belonging to your orator as aforesaid; and that your orator may have such other or such further relief as equity may require and to your honors seem meet—

May it please your honors to grant unto your orator, not only a writ of injunction, conformable to the prayer of this bill, but also a writ of subpœna, directed to the defendants and each of them, commanding them, at a certain time and under a certain penalty, to appear before your honors in this court, then and there to answer unto this bill of complaint and to abide by and perform such decree as the court shall make in the premises.

May it please your honors to grant unto your orator, not only the writ of injunction, conformable to the prayer of this bill, but also the writ for a provisional or temporary injunction, issuing
7 out of and under the seal of this court, enjoining and restraining said defendants and each of them to the same purport and effect as hereinbefore prayed with regard to said perpetual injunction.

And your orators will ever pray, etc.

(Signatures.)

UNITED STATES OF AMERICA, *District of Connecticut*, } ss:

At Hartford, in the county of Hartford, in said district, on this (date) day of (date), A. D. 1875, personally appeared William J. Wood, who, being duly sworn according to law, deposes that he is the vice-president and chief executive officer of the said Collins Company; that he has read the foregoing bill of complaint, and the same is true of his own knowledge, except as to those matters therein stated to be on information and belief, and those he believes to be true; and that he verily believes said Lucius Jordan and Leander E. Smith to have been the original, true, first, and joint inventors of the improvements in wrenches set forth and claimed in said reissued letters patent No. 5294, dated Feb. 25, A. D. 1873.

Before me—

(Signature.)

*Amended Answer.*

The answer of Loring Coes and Melvin O. Whittier, defendants, to the bill of complaint of the Collins Company.

These defendants, reserving to themselves all right of exception to any and all matters contained in said bill of complaint, for answer thereto, or to so much thereof as they are advised is material to be answered, say that they are informed and believe that letters patent, bearing date the tenth day of October, 1865, numbered 50364, and

purporting to grant to Lucius Jordan and Leander E. Smith for the term of seventeen years from the said date thereof the full and exclusive right and liberty of making, using, and vending to others to be used, a certain alleged improvement in wrenches, were issued from the Patent Office of the United States; but they deny
8 that the said Jordan and Smith were the original and first inventors of any improvements pertaining to wrenches or any material part thereof described and set forth or attempted so to be in the said letters patent; deny that the same had not been known and used by others before the alleged invention thereof by the said Jordan and Smith; deny that the said letters patent were granted acording to law, and deny that by virtue of the grant thereof the said Jordan and Smith ever became possessed of or entitled to any exclusive rights or privileges in respect to the things therein described and set forth.

And these defendants, further answering, aver that they are personally ignorant and have not been informed, save by the complainant's said bill, and cannot set forth their belief whether the said Jordan and Smith conveyed unto the complainant the said alleged invention or whether the Collins Company aforesaid is a corporation duly chartered, as specified in said bill of complaint; but they deny that either the said Jordan and Smith or the complainant ever had or became entitled to any exclusive right or property in and to the said alleged invention and improvement or any part thereof.

And these defendants are further informed and believe that the said letters patent were thereafter surrendered to the Commissioner of Patents, and that new letters patent, bearing date the twenty-second day of February, 1870, No. 3852, purporting to be for the same invention, were issued to the said complainant for the residue of the said term of seventeen years from the tenth day of October, 1865; but these defendants deny that the said original letters patent were surrendered for any good or lawful cause; deny that the said reissue thereof was obtained in due form of law, and aver that the said original letters patent were surrendered to claim other inventions and improvements not made by the said Jordan and Smith, and that the said letters patent No. 3852 were not for the same invention and improvement as the said original thereof.

And these defendants are further informed and believe that the said reissued letters patent No. 3852 were thereafter surrendered to the Commissioner of Patents, and that new letters patent, bearing date the twenty-fifth day of February, 1873, numbered 5294, and purporting to be for the same invention, were issued to the complainant for the residue of the said term of seventeen years
9 from the tenth day of October, 1865; but these defendants deny that the said reissued letters patent were surrendered for any good or lawful cause; deny that the said reissue thereof, No. 5294, was obtained in due form of law, and aver that said reissue of letters patent No. 3852 were surrendered to claim other improvements and inventions not made by the said Jordan and Smith, and that the said reissue letters patent No. 5294 are not for the same in-

vention and improvements as the said original letters patent No. 50364, but are invalid and void.

And these defendants, further answering, upon information and belief, aver that the said original letters patent No. 50364 were not inoperative or invalid by reason of such a defective or insufficient specification as was or could be lawfully corrected or amended by the attempted surrender thereof, as aforesaid, and the procurement of the said successive reissues or either of them; that the said original letters patent were not surrendered to correct any error which had arisen by inadvertence, accident, or mistake; and that new matter, not constituting any substantial part of the alleged invention upon which the said original letters patent were granted, was introduced and interpolated into the specification of the said reissued letters patent No. 5294 contrary to the express provision of the statutes of the United States in such cases made and enacted.

And these defendants, further answering, upon information and belief, aver that the alleged improvement in wrenches, or substantial and material parts thereof, described and claimed as new in the said reissued letters patent No. 5294 did not, at the time of the assumed or pretended origination or discovery of the same by the said Jordan and Smith, constitute an invention nor anything truly new, nor the proper subject of valid letters patent within the meaning and intent of the statutes of the United States in that behalf made and provided, but had already theretofore become matter of common knowledge among ordinary mechanics skilled in the art of manufacturing wrenches.

And these defendants, further answering, upon information and belief, deny that the said alleged improvements and invention, patented as aforesaid, have hitherto been in the exclusive possession of the complainant or its grantors, and deny but for the alleged infringements charged in the said bill the complainant would be in the undisturbed possession and enjoyment of the letters patent or any rights and privileges granted or secured thereby.

And these defendants, further answering, upon their knowledge, information, and belief, deny that they have, at Worcester, within the said district of Massachusetts, or elsewhere within the United States, since the 25th of February, 1873, or at any other time, made, used, and vended, or are now making, using, and vending to others to be used, any wrenches whatsoever containing substantially the alleged improvement and invention or any material part thereof set forth and patented in and by said reissue letters patent No. 5294; deny that they have done or caused to be done any act without right or in violation of the complainant's rights or with intent to injure the complainant; and deny that they have infringed or are infringing or give the complainant any reasonable ground to fear that they will infringe upon said reissued letters patent No. 5294 or upon such exclusive rights and privileges, if any, as are or may be granted or secured thereby.

And these defendants, further answering, upon their knowledge, information, and belief, aver that the alleged invention and im-

provement or substantial and material parts thereof set forth and claimed as new in the said reissue letters patent No. 5294 were, before the alleged origination or discovery thereof by the said Lucius Jordan and Leander E. Smith, described and set forth in letters patent of the United States numbered 40590, and granted to George C. Taft Nov. 10, 1863.

And these defendants, for the reasons hereinbefore recited, submit that they ought not to be decreed to account with and pay over to the complainant any profits or damages whatsoever, nor to be restrained as in complainant's said bill of complaint is prayed; but, without admitting that any other matter contained in the said bill of complaint material to be answered unto and not herein sufficiently answered is true to their knowledge and belief, submit that the complainant is not entitled to any relief whatsoever against them; all of which these defendants are ready to aver, maintain, and prove as this honorable court shall direct, and pray to be
11 hence dismissed with reasonable costs and charges in this behalf wrongfully sustained.

(Signatures.)

STATE AND DISTRICT OF MASSACHUSETTS, } ss:
*County of Suffolk,* }

At Boston, in said county, on this second day of October, in the year 1875, personally appeared the above-named Loring Coes and Melvin O. Whittier and made oath that the foregoing answer by them subscribed is true to the best and utmost of their knowledge, information, and belief.

Before me—

(Signature.)

Dated this eleventh day of April, 1878.

WM. E. SIMONDS,
*Solicitor and of Counsel for Complainant.*
GEO. L. ROBERTS,
*Solicitor and of Counsel for Defendants.*

This cause was thence continued from term to term to the October term, A. D. 1878, when the following amendment to answer was filed:

*Amendment to Answer.* (*Filed Feb.* 25, 1879.)

And these defendants, further answering, upon their knowledge, information, and belief, aver that the alleged invention and improvement, or substantial and material parts thereof, set forth and claimed as new in the said reissued letters patent No. 5294 were, before the alleged making or discovery by the said Lucius Jordan and Leander E. Smith, known to and used by the following-named persons at the place specified, to wit: Edmond Crosby, of South Hadley Falls, at Worcester, both in the said district of Massachusetts; George W. Wakefield and George C. Taft, both of and at said

Worcester, and Henry Crosby, of Georgetown, in the district of Connecticut, at said Worcester.

By their solicitors, GEO. L. ROBERTS & BROS.

Amendment consented to.

WM. E. SIMONDS,
*Solicitor for Complainant.*

12 At the same term the following further amendment to answer was filed:

*Further Amendment to Answer.* (*Filed March* 3, 1879.)

And these defendants, further answering, upon their knowledge, information, and belief, aver that the said alleged invention and improvement, or substantial and material parts thereof, set forth and claimed as new in the said reissued letters patent No. 5294 were, before the alleged origination or discovery thereof by the said Lucius Jordan and Leander E. Smith, patented in and by letters patent of the United States No. 2054, dated April 16, 1841, and granted to the said Loring Coes for improvements in screw wrenches, and were described in the specification thereto annexed and forming part of the same.

Dated Feb. 27, 1879.

By their solicitors, GEO. L. ROBERTS & BROS.

Amendment agreed to.

W. E. SIMONDS,
*Solicitor for Complainant.*

12*a* This cause was thence continued from term to term to the October term, A. D. 1879, when publication of the testimony was had, and the cause was set down for hearing and fully heard, the Honorable John Lowell, circuit judge, sitting and holding the court.

This cause was thence continued under advisement to the May term, A. D. 1880, when, on the twenty-fourth day of July, the opinion of the court was given and a decree ordered for the complainant.

On the thirtieth day of July the following petition was filed:

*Petition for Rehearing.* (*Filed July* 30, 1880.)

To the honorable the judges of the said circuit court:

Respectfully represents Loring Coes, one of the defendants in the above-entitled cause, that the opinion of the court, expressed in the words following, to wit, "The same result of transferring the strain to the bar has since been reached by G. C. Taft in a patent now owned by the defendants, but in a wholly different way," contains an error in fact and tends to prejudice the said Loring Coes in another suit in equity, brought by him outside of this jurisdiction, upon a cause of action not involving the issues presented in the case at bar; that the patent of G. C. Taft alluded to was originally granted November 10, 1863, nearly two years prior to the original patent of

Jordan & Smith, which was issued October 10, 1865; that the said Taft patent was reissued June 1, 1869, nearly three years and nine months before the reissue of the Jordan & Smith patent, upon
12*b* which the suit at bar was brought, and that the said Loring Coes has instituted a suit against the said Collins Company in the circuit court of the United States, within the district of Connecticut, charging infringement upon the said Taft reissue by reason of the manufacture by the said Collins Company of wrenches such as that described in the said Jordan & Smith patent, which suit is now pending and has not yet been adjudicated upon.

Wherefore this defendant, the said Loring Coes, prays this honorable court for rehearing upon the matters hereinabove set forth, and for such revision of the opinion of this court as to your honors may seem meet in the premises.

LORING COES.

DISTRICT OF MASSACHUSETTS, *Suffolk*, } *ss:*

At Boston, on this 29th day of July, 1880, personally appeared Loring Coes, the subscriber of the within and foregoing petition, and made oath that the matters of fact therein stated are true.

Before me—

[SEAL.] J. L. S. ROBERTS,
*Notary Public.*

On the sixth day of October, A. D. 1880, the following certified copy of disclaimer was filed:

12*c* *Certified Copy of Disclaimer.* (*Filed Oct.* 6, 1880.)

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the files of this office of the disclaimer, filed August 9th, 1880, in the matter of the reissue letters patent granted L. Jordan and L. E. Smith, assignors to the Collins Company, February 25th, 1873, No. 5294, for improvement in wrenches.

In testimony whereof I, E. M. Marble, Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this third day of September, in the year of our Lord one thousand eight hundred and eighty, and of the Indpendence of the United States the one hundred and fifth.

[L. S.] E. M. MARBLE,
*Commissioner.*

12*d* To the Hon. Commissioner of Patents:

The undersigned, The Collins Company, a corporation chartered by the State of Connecticut and having its principal place of business at Collinsville, in the county of Hartford, in said State, respectfully represents—

That letters patent of these United States for an improvement in

wrenches, dated October 10, A. D. 1865, and numbered 50364, were granted to Lucius Jordan and Leander E. Smith and were by them wholly assigned to said The Collins Company by an instrument in writing dated on or about June 1, A. D. 1866, and duly recorded in the Patent Office on or about June 21, A. D. 1866, which said letters patent, with the reissue thereof, hereinafter mentioned, and with all the rights and privileges granted and secured thereby, have ever since been and now are the sole and exclusive property of said The Collins Company.

Further, that said letters patent were lawfully surrendered, and in lieu thereof new and reissued letters patent, dated February 22, A. D. 1870, and numbered 3852, were granted to said The Collins Company.

Further, that said reissued letters patent were lawfully surrendered, and in lieu thereof new and reissued letters patent, still in force, dated February 25, A. D. 1873, and numbered 5294, were granted to said The Collins Company.

Further, that said The Collins Company has reason to believe that through inadvertence and mistake the second clause of claim made in said last-mentioned reissued letters patent, in the following words,

to wit, "2, The nut F, combined with the wrench bar and in-
12e teriorly recessed at *d*, for the purpose set forth," is too broad, including that of which said Jordan and Smith were not the first inventors.

Said The Collins Company therefore hereby enters its disclaimer to "the nut F, combined with the wrench bar and interiorly recessed at *d*, for the purpose set forth," except when said recessed nut and wrench bar are in combination with the handle ("G"), the step or step plate ("E"), the screw rod ("C"), and the movable jaw ("B") of the wrench, substantially as is shown and described in said last-mentioned reissued letters patent, dated August 7, A. D. 1880.

THE COLLINS COMPANY,
By WILLIAM J. WOOD, *Secretary.*

Witnesses:
BRAINERD T. JUDKINS.
JAMES J. GREEN.

This cause thereupon came on to be heard, and was fully heard on the said petition for rehearing and upon the form of decree, the Honorable John Lowell, circuit judge, sitting, and the following decree was entered as — the twenty-fourth day of July, A. D. 1880:

*Decree for Perpetual Injunction and for Reference to a Master.*

This cause came on to be heard at the October term of this
12f court, A. D. 1879, upon the pleadings and proofs, and was argued by counsel for the respective parties; and now, upon consideration thereof, to wit, July 24, 1880, it is ordered, adjudged, and decreed as follows, viz: That the letters patent referred to in the complainants' bill, being reissue letters patent of the United States No. 5294, granted unto The Collins Company, assignees of Lucius

Jordan and Leander E. Smith, Feb. 25, 1873, for an improvement in wrenches, is a good and valid patent as to the first and third claims thereof, and that the said Jordan and Smith were the original and first inventors of the improvement described and claimed in said first and third claims, and that the said defendants have infringed the first claim of the said patent and upon the exclusive rights of the complainants under the same.

And, it being made to appear to the court that the complainants have filed in the Patent Office of the United States a disclaimer of what is claimed in and by the second claim of said letters patent, it is further ordered, adjudged, and decreed that the complainants recover of the defendants the profits which they have received or made or which have accrued to them from said infringement by the manufacture, use, or sale of the improvement described and secured by said letters patent at any and all times since the granting of the said reissued letters patent to The Collins Company, the complainants, and in addition thereto the damages which the complainants have sustained thereby.

12*g* And it is further ordered, adjudged, and decreed that it be referred to Charles H. Swan, Esq., a master of this court *pro hâc vice*, to take and report to the court an account of the profits which the said defendants have received or which have arisen or accrued to them from the infringement of the patented invention claimed in said first claim by unlawfully making, using, or vending the same, as alleged in the bill, and to ascertain and report the damages, if any, in addition to the profits, which the complainants have sustained thereby.

And it is further ordered, adjudged, and decreed that a perpetual injunction be issued against the defendants, according to the prayer of the bill.

By the court:

JOHN G. STETSON, *Clerk.*

This cause was thence continued to the October term, A. D. 1880, when, on the seventh day of December, the following petition was filed:

*Petition to Vacate Decree and Amend Answer.* (*Filed Dec.* 7, 1880.)

To the honorable the judges of the said court:

Respectfully represent Loring Coes and Melvin O. Whittier, defendants in the above-entitled cause—

That since the 6th day of October, 1880, when the court, after hearing counsel for the respective parties, settled the terms of the interlocutory decree ordered on the 24th day of July, 1880, these defendants have discovered new evidence, which they are advised and believe constitutes a sufficient and conclusive defense

12*h* against any supposed right of the complainant corporation to maintain its bill of complaint.

That this newly discovered evidence shows that Lucius Jordan and Leander E. Smith, the patentees named in original letters patent

No. 50364, granted October 10th, 1865, upon which the reissue No. 5294 is founded, were not joint inventors of the improvements in wrenches therein described and set forth, as alleged in the complainants' bill, but that the said Lucius Jordan was in fact the sole inventor of the said improvements and of every substantial and material part thereof, and that the said Leander E. Smith did not participate in the said invention nor contribute anything whatsoever thereto.

That not until the 30th day of September did these defendants ever receive any information which could lead them to doubt that the said Lucius Jordan and Leander E. Smith were jointly the inventors of what was described in the letters patent aforesaid; that all the evidence to the contrary has been discovered by these defendants or disclosed to them since the 15th day of October, 1880, excepting only mere hearsay of what the said Lucius Jordan had declared on the 30th day of September, 1880, and that these defendants have used their utmost diligence in bringing the said newly discovered evidence to the attention of the court.

Wherefore these defendants pray that the interlocutory decree in the above-entitled cause may be vacated; that they may be allowed to amend their answer therein by pleading the facts in accordance with the newly discovered evidence aforesaid and the consequent
12*i* invalidity *ab initio* of the letters patent sued upon; that they may be permitted to take the testimony of witnesses in support of the averments of the answer so amended, and that they may be heard thereon in the same manner and with the same effect as if the same issues had been raised in the original pleadings and the same proofs introduced into the original record of the cause.

LORING COES.
M. O. WHITTIER.

DISTRICT OF MASSACHUSETTS:

BOSTON, *Nov. 3rd*, 1880.

Subscribed and sworn to before me—

CHAS. H. SWAN,
*U. S. Commissioner.*

This cause came on to be heard and was fully heard upon said petition, the Honorable John Lowell, circuit judge, sitting, and was thence continued under advisement to the May term, A. D. 1881, when, on the twenty-first day of May, the opinion of the court was given, and it was thereupon ordered that the said petition be denied.

This cause was thence continued from term to term to this present May term, A. D. 1884, when, on the twenty-first day of August, the following motion is filed:

*Motion for Rehearing and to Vacate Decree.* (*Filed. Aug.* 21, 1884.)

To the honorable the judges of the said court:

12*j* Respectfully represent Loring Coes and Melvin O. Whittier, defendants in the above-entitled cause—

That since the interlocutory decree ordered on the 24th day of

July, 1880, no further proceedings have been had thereon, and that the case now stands in the same condition as on the day when the terms of the said decree were settled, to wit, on the 6th day of October, 1880.

That afterwards, to wit, on the 28th day of January, 1881, the complainant brought in this court another suit in equity against John H. Coes and Frederick L. Coes, charging them with infringement upon the same letters patent, reissue No. 5294, which these defendants, Loring Coes *et al.*, had been adjudged to infringe.

That in the said subsequent suit against John H. Coes *et al.*, the same issues of novelty and infringement were raised as in the said earlier suit against these defendants, Loring Coes *et al.*

That on the 30th day of July, 1884, this court adjudged the said letters patent, reissue No. 5294, to be void for want of novelty in the invention therein described and claimed, and held that recent decisions of the Supreme Court of the United States have in effect overruled the earlier decision of this court in the suit of the said complainant against these defendants, Loring Coes *et al.*

Wherefore these defendants pray that a rehearing of the above-entitled cause may be had, and that the interlocutory decree against them therein may be vacated, and that the complainants' bill therein may be dismissed with costs.

Sept. 2, 1884.

By their solicitor, GEO. L. S. ROBERTS.

12*k* This cause came on to be heard upon the said petition and was fully heard, and on the third day of September the following decree is entered:

*Final Decree. Sept.* 3, 1884.

GRAY and NELSON, *JJ.:*

It is now, to wit, Sept. 3, 1884, ordered by the court in the above-entitled cause that the motion by defendants for rehearing be granted for the reasons set forth in the defendants' petition therefor.

And, upon further consideration of the cause and after argument thereof by counsel for the respective parties, it is ordered, adjudged, and decreed that, for the reasons stated in the opinion of this court in the case of The Collins Company *v.* John H. Coes and Frederick Coes, decided on the 30th day of July, 1884, the interlocutory decree in this cause be vacated and the complainant's bill be dismissed, but without costs.

By the court:

JOHN G. STETSON, *Clerk.*

From this decree the complainant in open court claims an appeal to the Supreme Court of the United States, and gives good and sufficient security that it will prosecute its appeal to effect and answer all damages and cost if it fail to make its plea good, and said appeal is allowed.

A true record.

JOHN G. STETSON, *Clerk.*

12*l* The following is the evidence used at the hearing of said cause before said circuit court:

*Evidence for Complainant, Taken Pursuant to the Sixty-seventh Rule of the Supreme Court of the United States, in Equity, as Amended, Before me, William H. Myer, Special Examiner.*

NEW YORK, *Nov.* 29, 1878.

Present: W. E. Simonds, Esq., of counsel for complainant; R. L. Roberts, Esq., of counsel for defendants.

Complainant's counsel offers in evidence a certified copy of United States letters patent granted to Lucius Jordan and Leander E. Smith for improvements in wrenches, dated Oct. 10, 1865, and
13 numbered 50364. The same is marked "Exhibit Complainant's Original Patent, Nov. 29, 1878, William H. Myer, special examiner."

Complainant's counsel also offers in evidence a certified copy of an assignment by Lucius Jordan and Leander E. Smith of said letters patent No. 50364 to the said The Collins Company, dated June 1, A. D. 1866. The same is marked "Exhibit Complainant's Jordan & Smith's Assignment, Nov. 29, 1878, William H. Myer, special examiner."

Complainant's counsel also offers in evidence a certified copy of reissued letters patent of the United States for improvement in wrenches, issued to the said The Collins Company, as assignee of Lucuis Jordan and Leander E. Smith, numbered 5294 and dated Feb. 25, 1873. The same is marked "Exhibit Complainant's Reissued Patent, Nov. 29, 1878, William H. Myer, special examiner."

Complainant's counsel also offers in evidence a wrench, to which a stipulation as follows is attached, viz:

"UNITED STATES CIRCUIT COURT, } *ss:*
*District of Massachusetts,* }

"THE COLLINS COMPANY *v.* L. COES & COMPANY.

"It is stipulated and agreed that since the issue of complainant's last reissued patent, No. 5294, set up in its bill of complaint, and prior to the commencement of said suit, said respondents have made and sold at Worcester, in said district, and at other places in said district, and at other places in the United States, wrenches the same in construction and operation as the wrench to which this stipulation is attached.

"Dated May 8, 1878.

"GEORGE L. ROBERTS,
"*Solicitor for Defendants.*
"WILLIAM E. SIMONDS,
"*Solicitor and of Counsel for Complainant.*"

And the same is marked "Complainant's Exhibit Defendants Manufacture, Nov. 29, 1878, William H. Myer, special examiner."

It is hereby stipulated by the counsel of the respective parties to this cause that the complainant possesses the corporate character set out for itself in its bill of complaint in this cause.

14 *Deposition of James Shepard.*

NEW YORK, *Nov.* 29, 1878.

Direct examination by W. E. SIMONDS, Esq., of counsel for complainant:

Int. 1. What is your name, age, residence, and occupation?

Ans. My name is James Shepard; my age, forty years; my residence, New Britain, Conn., and my occupation, a solicitor of patents, and I am frequently called upon to testify as an expert in causes pertaining to patents.

Int. 2. State what experience, if any, you have had relating to mechanical matters or to letters patent for inventions.

Ans. I have been a solicitor of patents since 1866, during which time I have constantly had occasion to compare mechanisms and devices with each other and with the drawings and specifications of letters patent with the view of ascertaining their differences or resemblance. Prior to 1866 I was a machinist, and had quite a varied experience in making and repairing and oftentimes devising tools and machinery, whereby I obtained a practical knowledge of mechanics, which experience began more than twenty-five years ago and extended over a period of about twelve years. Since I have been a solicitor of patents, more especially for the last six or seven years, I have been very frequently called upon to testify as an expert in the United States circuit courts.

Int. 3. Have you examined and do you understand the specification and drawings in complainant's reissued patent No. 5294?

Ans. I have examined the same and I understand the contents thereof.

Int. 4. State whether, in your opinion, the wrench offered in evidence and marked "Complainant's Exhibit Defendants' Manufacture" embodies the mechanism or mechanisms described and claimed in said complainant's reissued patent No. 5294, giving your reasons, if any you have, for your opinion.

Ans. It does. The wrench described in the patent is of that class of wrenches having a fixed and a movable jaw, which are known as hammer wrenches. The movable jaw is adjusted to slide
15 on a bar by means of a screw by the side of the bar, as in other wrenches of this class. The devices or mechanisms set forth specially in the patent as new consist, first, of a step which is slipped on the wrench bar and up against a shoulder thereon. This step contains the bearing for the lower end of the adjusting screw, and upon which step the entire strain of the pressure exerted upon the movable jaw to force it endwise with the bar is brought to bear. This step is held firmly up against the shoulders on the wrench bar by means of a screw nut immediately back of the step and fitted to a threaded portion on the wrench bar at that point. Extending

backwards towards the handle end of the wrench bar from the nut there is an annular flange, the interior walls of which form a recess into which the end of the wooden handle is inserted. The wooden handle is held in place by means of a small nut on the end of the wrench bar. The advantages of this construction are that the step may be pressed firmly up against the shoulder and held there in a very rigid and substantial manner, so as to prevent the force of the movable jaw from being transferred through the step to the handle, so as to batter the handle, and so as not to interfere with any of the working parts. Second, this mode of fastening the step does not in any manner weaken the wrench bar, but, on the contrary, strengthens it. Third, the step can be very readily removed, when desired, for the purpose of repairing any of the parts; and, fourth, a mortise is provided back of the nut in this removable step wrench to receive and support the inner end of the handle.

I find in Complainant's Exhibit Defendants' Manufacture the same class of wrench, and also the devices peculiar to the patent under consideration, to wit, a removable step slipped up against the shoulders on the wrench bar bearing the lower end of the screw for adjusting the movable jaw, which step is held firmly up against the shoulder by means of a screw nut on the threaded portion of the wrench bar just back of the step, and also I find an annular flange extending from the nut backwards towards the end of the handle, the interior of which forms a socket back of the nut to support the end of the handle, and the handle is secured in place by means of a small nut at the end of the wrench bar. I have not overlooked the
16 fact that in the Complainant's Exhibit Defendants' Manufacture the annular flange is formed upon the step instead of upon the nut, and that the nut is placed inside the annular flange; but this difference I consider immaterial, as the nut is immediately back of the step and the annular flange extends backward of the nut and sustains the same relation to it with reference to the inner end of the handle as though it were formed solid on the nut itself. The construction found in Complainant's Exhibit Defendants' Manufacture possesses each and every advantage which I have specified for the construction of the wrench described in the reissued patent. In consequence of these resemblances in construction and operation which I have described I am clearly and fully of the opinion that the wrench, Complainant's Exhibit Defendants' Manufacture, fully and completely embodies the devices and mechanisms described in the reissued letters patent, and specially referred to in the three several claims thereof, and performs the same functions by the same mechanical means and in the same way.

(Defendants' counsel waives the cross-examination of this witness.)

JAMES SHEPARD.

Attest: WILLIAM H. MYER,
*Special Examiner.*

*Deposition of Luke Chapman.*

NEW YORK, *Nov.* 29, 1878.

Direct examination by W. E. SIMONDS, Esq., of counsel for the complainant:

Int. 1. What is your name, age residence, and occupation?

Ans. My name is Luke Chapman; my age, forty years; my residence, Collinsville, Connecticut, and my occupation—I am a master mechanic for the Collins Company and have held that position for the last fourteen years, and have been in their employ for the last sixteen years.

Int. 2. State whether the Collins Company have made and sold wrenches like those described and claimed in complainant's reissued patent No. 5294; and, if they have, to what extent.

Ans. They have made and sold wrenches made under that
17 patent, which they own. About 400,000 wrenches have been made and sold by them between November, 1866, and the present date.

Int. 3. State, if you know, what wrench, if any, prevailed in the market prior to the introduction to the market of this Jordan & Smith wrench; by which I mean a wrench like that described in complainant's reissued patent No. 5294.

Ans. A wrench manufactured by the Coes Company, of Worcester, Massachusetts, called Coes' wrench, like the one I now hold in my hand, which I now offer in evidence.

(The said wrench is put in evidence and marked "Complainant's Exhibit Coes' Old Wrench, Nov. 29, 1878, William H. Myer, special examiner.")

Int. 4. State, if you know, what style of wrench, if any, has prevailed in the market since the introduction to the market of what I have styled the Jordan & Smith wrench.

Ans. The wrench like Complainant's Exhibit Defendants' Manufacture, which exhibit I now hold in my hand.

And, being cross-examined by defendants' counsel, the witness further testifies as follows:

Cross-int. 5. How many wrenches have the Collins Company made in accordance with patent reissue No. 5294 and sold during the year last past?

Ans. I could not state.

Cross-int. 6. What is your best judgment as to the number?

Ans. Probably about 14,000.

Cross-int. 7. How many during the year 1877?

Ans. In 1877 we sold 17,000.

Cross-int. 8. How many during each of the years, 1876, 1875, and 1874?

Ans. In 1874, 21,946 were made and sold; in the year 1875, 20,870, and in 1876, 17,463.

Cross-int. 9. Prior to the manufacture and sale of the Jordan & Smith wrench, so called, did you know of a wrench in the market

purporting to be made in accordance with a patent of George C. Taft?

(Objected to by complainant's counsel on the ground that this question refers to nothing contained in the direct examination of this witness, and on the further ground that this question is evidently intended to elicit evidence in support of defendants' defence, a thing the defendants are not entitled to at this time and in this manner.)

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Ans. I cannot say that I did know of the manufacture of such a wrench. I knew of several wrenches that were called Taft's patents. I do not know which particular wrench the question refers to.

Cross-int. 10. Prior to the time mentioned in the ninth question did you know of a wrench in the market having two or more rosettes upon the adjusting screw of the movable jaw?

Ans. I have never seen such a wrench in the market or in use. I have seen drawings of such a wrench.

LUKE CHAPMAN.

Attest: WILLIAM H. MYER,
*Special Examiner.*

*Evidence for Defendants, Taken Pursuant to the Sixty-seventh Rule of the Supreme Court of the United States, in Equity, as Amended, Before me, Charles H. Swan, Special Examiner.*

BOSTON, *Feb.* 26, 1879.

Present: W. E. Simonds, Esq., of counsel for complainant; R. L. Roberts, Esq., of counsel for defendants.

*Deposition of George W. Wakefield.*

BOSTON, *Feb.* 26, 1879.

Direct examination by R. L. ROBERTS, Esq., of counsel for defendants:

Int. 1. What is your name, age, residence, and occupation?

Ans. My name is George W. Wakefield. I am forty-nine years old. I live in Worcester, Mass., and am a machinist.

Int. 2. Have you ever been engaged in the manufacture of wrenches; and, if so, when and where?

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Ans. I have; in Worcester, in 1852 to 1853.

Int. 3. What were the wrenches which you manufactured at that time, and did you carry on the business for yourself, or by whom was it carried on?

Ans. The wrench known as the Hewitt wrench. I was employed by E. F. Dixie as foreman of his shop.

Int. 4. Have you a wrench such as manufactured at the time stated in the shop of E. F. Dixie; if so, will you please produce it and state when it was made?

Ans. I have. It was made in 1853. I produce it, to be marked "Defendants' Exhibit Dixie Wrench."

Int. 5. Where did you procure this wrench? Give a history of it since you have had it.

Ans. I took it from the shop that I was employed in in 1853, and it has been in my possession ever since, never having been in use only what I have used it in my house.

Int. 6. State whether the wrench has ever been taken apart while in your possession; if so, when and under what circumstances.

Ans. It has never been taken apart until yesterday. I took it apart to show the counsel how it was put together.

Int. 7. In making these wrenches at the shop of Mr. Dixie will you state in what way the ferrule, which is just back of the rosette on the worm or adjusting screw, was applied?

Ans. It was screwed on when I first took charge of the shop and never was done in any other way. The ferrule was screwed on so as to leave enough play for the worm or adjusting screw to work easy. These shanks were cut with a die. The ferrule was tapped out with a regular tap, which we usually screwed onto its proper place with a wrench.

Int. 8. To what extent were wrenches like this one marked "Dixie wrench" manufactured in the shop of E. F. Dixie while you were foreman there, and in what variety of sizes, as far as you remember?

Ans. To the best of my knowledge, I should say three or four hundred a week. The sizes run 12, 15, and 21—mostly 12's.

20 Cross-examination by W. E. SIMONDS, Esq., of counsel for complainant:

Cross-int. 9. State as exactly as you can the month and day of the month when you so commenced to work for Mr. Dixie, and the month, with the day of the month, so near as you can, you ceased to work for Mr. Dixie.

Ans. I can't give the day, but I commenced to work for him in September, 1852—somewhere near the middle or latter part. I left him in August, 1853; the date I don't remember; it was somewhere about the middle or latter part.

Cross-int. 10. Do you give these dates wholly from memory?

Ans. I do; and circumstances connected with it.

Cross-int. 11. That is, you have no written memoranda of these dates?

Ans. Nothing of the kind with me here.

Cross-int. 12. Where was Mr. Dixie's shop located in Worcester, and how many men were employed?

Ans. His shop, when I commenced work for him, was on the corner of Union and Exchange streets, and afterwards he moved into a shop on Union street—that would now be the corner of Union and Foster streets. I should say he employed from eight to twelve men and boys together.

Cross-int. 13. Were all those men and boys employed in making wrenches of the style of this Dixie wrench?

Ans. Yes.

Cross-int. 14. Did the manufacture of the Dixie wrench cease when you left Mr. Dixie?

Ans. It did not.

Cross-int. 15. How long after you left was that manufacture carried on, if you know?

Ans. To the best of my knowledge, until 1854, when he was burnt out.

Cross-int. 16. What were the average daily wages of the men and what the average daily wages of the boys employed by Mr. Dixie while you were with him?

Ans. All the work was jobbed out. Most of the men hired
21 their own boys. About their average pay I couldn't say; perhaps in the neighborhood of $1.50 or $2.00 per day.

Cross-int. 17. Do you mean that as the average pay of the men and boys both?

Ans. I don't know about the boys, because the boys were hired by the men who did the job work. My previous answer refers to the pay of the men.

Cross-int. 18. How many of the force were men and how many were boys?

Ans. I should say there were seven or eight men and the balance were boys.

Cross-int. 19. Do you know the cost of the labor on a 12-inch Dixie wrench at the time you worked for Mr. Dixie?

Ans. I don't remember.

Cross-int. 20. Where were the wooden handles procured for those Dixie wrenches.

Ans. The handles were turned right in the shop.

Direct examination resumed:

Int. 21. Is Mr. E. F. Dixie now living?

Ans. He is not.

Int. 22. Was everything pertaining to the manufacture of these Dixie wrenches done in his shop?

Ans. Everything with the exception of the forging and casting.

GEO. W. WAKEFIELD.

Attest: CHAS. H. SWAN,
*Special Examiner.*

*Deposition of Edmund Crosby.*

BOSTON, *Feb.* 26, 1879.

Direct examination by R. L. ROBERTS, Esq., of counsel for defendants:

Int. 1. State your name, age, residence, and occupation.

Ans. Edmund Crosby; I am fifty-nine years old; I live at South Hadley Falls, Mass., and am a shop-keeper.

Int. 2. Were you ever in the employ of E. F. Dixie, at Worcester, Mass.; if so, when first, and where was his shop?

22 Ans. I was in his employ in 1850; his shop was in South Worcester.

Int. 3. What did he manufacture at that time while his shop was at South Worcester?

Ans. Monkey-wrenches.

Int. 4. Of what kind?

Ans. They were called the Hewitt wrench.

Int. 5. Please look at the wrench now shown you, marked "Dixie wrench," and state how it agrees with or differs from the wrench which was manufactured in E. F. Dixie's shop at South Worcester.

Ans. We didn't make but very few of this size there. We made 6, 8, and 10 inch mostly. We made a few of these 12-inch. They were all like this, only the ferrules were thin and were drove onto the end of the handle, and that driven onto the end of the wrench bar.

Int. 6. Do you know whether or not wrenches like that marked "Dixie wrench," with the ferrule screwed upon the wrench bar, were manufactured by E. F. Dixie; if so, when, and where was his shop, and what was the occasion of it?

Ans. They were, in 1851. His shop was on Exchange and Union streets. He had been to New York, and somebody who had bought them had found fault about the handle shoving back, and wanted to know if he couldn't have them screwed on the 10 and 12 inch. They had been screwed on the 15's and 21's before, but I had never manufactured any of them.

Int. 7. What part of the work did you do in the manufacture of the Dixie wrenches?

Ans. I used to do some of all of it. I had the contract and hired the help.

Int. 8. How much did Mr. Dixie pay you for each wrench?

Ans. Thirty-three cents for the four smallest sizes. I think it was $1.25 for the 15's and 21's; I am not positive. I think the 15's and 21's were the same price.

Int. 9. Did he always pay you the same price for the four small sizes?

Ans. Two of the small sizes, 10 and 12, he paid me one
23 cent extra for cutting the screw on the bar, tapping out the ferrules and putting them on.

Int. 10. Up to what time were you in the employ of Mr. Dixie?

Ans. I quit him some time in 1853.

Int. 11. While you were in his employ to what extent were wrenches like that marked "Dixie wrench," having the ferrule screwed upon the shank, manufactured?

Ans. Three hundred a week was the contract.

Int. 12. Was there any difference in the appearance of the ferrules used upon these Dixie wrenches, whether they were intended to be driven onto the shank or screwed upon it?

Ans. There was a difference in the looks of 'em. Those that were drove on were longer. They were tapering, and you couldn't get a good fit on 'em.

Int. 13. Will you please look at the ends of the wooden handle

upon the wrench marked "Dixie wrench" and state whether it agrees in construction with all the handles which were used upon the Dixie wrenches manufactured by you?

(Objected to as leading.)

Ans. It does not with any of them that I see put on.

Int. 14. State how it differs.

Ans. There was a shoulder cut on the upper end, one-sixteenth of an inch long, to drive into the ferrule, and the lower end used to fit into the tip or nut.

Int. 15. You say in answer to Int. 11 that the contract was to manufacture three hundred wrenches per week like the wrench marked "Dixie wrench." How nearly did you come to the contract in the manufacture?

Ans. I couldn't tell exactly. I think we got out two-thirds of it.

Cross-examination by W. E. SIMONDS, Esq., of counsel for complainant:

Cross-int. 16. How many wrenches in all did you make for Mr. Dixie in which the ferrule under the rosette was screwed upon the bar?

Ans. I couldn't tell you.

24 Cross-int. 17. Can you not tell approximately whether it was one, one hundred, or one thousand?

Ans. I should think it was more than one thousand.

Cross-int. 18. Did the manufacture of wrenches with that ferrule screwed upon the bar commence after you went to work for Mr. Dixie?

Ans. The first that I heard of it.

Cross-int. 19. When you first went to work for Mr. Dixie were his wrenches made with that ferrule driven upon the bar?

Ans. I think they were.

EDMUND CROSBY.

Attest: CHAS. H. SWAN,
*Special Examiner.*

*Deposition of Joshua S. Wheeler.*

BOSTON, *Feb.* 26, 1879.

Direct examination by R. L. ROBERTS, Esq., of counsel for defendants:

Int. 1. State your name, age, residence, and occupation.

Ans. Joshua S. Wheeler; I am forty-nine years old; I live in Worcester, Mass., and am a machinist.

Int. 2. Have you a wrench known as a "Coes wrench;" if so, will you produce it and state how long you have had it and to what use it has been put?

Ans. I have. It was purchased of Henry W. Miller, on Main street, Worcester, I should say, twenty-nine or thirty years ago, about this season of the year. It has been used in a machine shop

for the manufacture of machinists' tools, with the exception of about four years my brother had it on a farm in New Hampshire. I produce it, to be marked "Exhibit Coes' Wrench, Original Manufacture." The bar has been bent three or four times and straightened.

Int. 3. What other repairs, if any, have been made upon this wrench since you have had it? I mean besides straightening the bar.

Ans. No other repairs, excepting grinding it off where the hammer part has been battered.

25 Int. 4. Where was the bar bent on this wrench, and in what way?

Ans. Between the head jaw and the sliding jaw, probably about half way out, by hard strains screwing up nuts. Once I used it in a lathe to hold a chuck rimmer, and the rimmer got caught, and it sprung the bar badly.

Cross-examination by W. E. SIMONDS, Esq., of counsel for complainant:

Cross-int. 5. Who originally purchased this wrench of Henry W. Miller?

Ans. I did.

Cross-int. 6. Have you named everything in the way of repairs that has ever been done to this wrench?

Ans. All that I remember of.

Cross-int. 7. I call your attention to the teeth on the periphery of the rosette, and ask you if you observe that those teeth at the bottom or lower end of the rosette are wider or enlarged somewhat, as compared with the remainder of those teeth.

Ans. I see they are, somewhat.

Cross-int. 8. What has caused the enlargement at the lower end of those teeth?

Ans. I should judge the strain against the ferrule by usage.

Cross-int. 9. Was it caused by the strain against the ferrule, or was it caused by the pressure of the rosette against the bottom of the notch in the bar?

Ans. I couldn't say. It may be by the notch. It was by usage of the wrench.

Cross-int. 10. As that wrench is constructed, do you see any liability or tendency on the part of the bottom of those teeth to come in contact with the top of the ferrule?

Ans. I do, next to the bar. I have used that same kind of a wrench where it would bear back so as to split the wooden handle.

Cross-int. 11. Have not the faces of those teeth been battered down at the bottom or lower end?

Ans. Not to my knowledge; only by general use.

Cross-int. 12. There is on the lower end of the rosette a
26 slight cut-away near the periphery. Was that cut-away on the rosette when you bought it?

Ans. Not to my knowledge.

Cross-int. 13. Has it been caused by the use of the wrench?

Ans. I should think that it had.

Cross-int. 14. Was it caused by the bearing of the rosette on the ferrule or by the bearing of the rosette on the bottom of the notch in the bar?

Ans. I couldn't say. I should say perhaps both.

Cross-int. 15. If it were caused by the bearing of the rosette on the ferrule would not the lower end of the rosette naturally be cut away equally from the periphery to the axis?

Ans. Not necessarily, in my judgment.

Cross-int. 16. Was not the top or upper face of the ferrule flush or level throughout?

Ans. I should say it was when it was new.

Cross-int. 17. Then, if it cuts the lower end of the rosette why does it not cut equally from periphery to axis?

Ans. I should say it is because the dirt and iron chips get in the outer edge and do not so much in the edge next the axis.

Cross-int. 18. Do you like that wrench which you have used so long?

Ans. I prefer the Coes wrench to any other wrench made, with the exception of the Lindsey wrench, which I have used some.

Cross-int. 19. Do you think that idea of having the screw on the side of the bar preferable to having it enclose the bar, as on the Dixie wrench?

Ans. I do, and have always considered it so. I have never used any wrench but those, and have probably some twelve or fifteen of them.

Cross-int. 20. Where and at what are you now employed?

Ans. At Worcester, manufacturing machinists' tools and job work.

Cross-int. 21. Were you ever employed making wrenches?

Ans. No.

Cross-int. 22. Do you think that dust and dirt gathering
27 under the rosette of the Coes wrench would have any tendency to upset the rosette?

Ans. I do, as I have had it get in there so tight that I couldn't turn the rosette easily with my thumb without digging it out.

Direct examination resumed:

Int. 23. Do you remember ever removing a ferrule from the bar of the Coes wrench?

Ans. I do, several times.

Int. 24. Do you remember how such wrenches were constructed under the ferrule? If so, please state.

Ans. I couldn't tell particularly, perhaps, but in taking the handle off I have noticed that the ferrule is driven onto the bar and the handle goes up under it in part. That was the way with the old Coes wrench. I have never taken the new ones apart.

JOSHUA S. WHEELER.

Attest: CHARLES H. SWAN,
*Special Examiner.*

*Deposition of Henry S. Crosby.*

BOSTON, *Feb.* 26, 1879.

Direct examination by R. L. ROBERTS, Esq., of counsel for defendants:

Int. 1. State your name, age, residence, and occupation.

Ans. My name is Henry S. Crosby; I am fifty-four years old; I live in Georgetown, Conn., and am a wire-puller.

Int. 2. Were you ever employed in the shop of E. F. Dixie, at Worcester, Mass.; if so, when? And mention the circumstances under which you first went there.

Ans. I went to work there for my brother in 1851, at South Worcester.

Int. 3. How long were you employed in the shop of E. F. Dixie, and what work did you do there?

Ans. I was employed there from 1851 to 1853; the first three months I knocked round and done anything; after that I made the worms and turned the bars, prepared them for cutting the threads for wrenches.

28 Int. 4. What were the wrenches which you assisted in making while you were employed in Mr. Dixie's shop?

Ans. They were called the Hewitt wrench.

Int. 5. What, if anything, enables you to say that it was in 1851 that you went to work for your brother in Mr. Dixie's shop?

(Objected to as leading.)

Ans. Because I had just come home from sea and found him to work there, and he wanted I should go to work for him.

Int. 6. Please look at the wrench marked "Dixie wrench" and say if you ever saw one made like that, with a ferrule screwed upon the shank of the wrench, as therein constructed; and, if so, when first and where.

Ans. I have seen a great many such wrenches; in 1851 I think I first saw them at Worcester, corner of Exchange and Union streets, in E. F. Dixie's shop.

Int. 7. While employed in Mr. Dixie's shop did you have anything to — with the manufacture of wrenches like Exhibit Dixie Wrench; if so, what?

Ans. I made the worms and turned the bars ready for cutting the threads.

Int. 8. How does the wrench, Exhibit Dixie, agree in construction with those manufactured at his shop while you were employed there and which you assisted in making?

Ans. I should think it agreed with them.

Int. 9. Please state what difference, if any, you find between this wrench marked "Dixie wrench" and those which you assisted in making at Mr. Dixie's shop at the time you were employed there.

Ans. I don't find any difference only the handle. It used to, if I remember right, shut down into the ferrule a trifle.

Int. 10. During the time that you were employed at Mr. Dixie's

shop to what extent were wrenches like the one marked "Dixie wrench" manufactured there?

Ans. Well, I should think from two to four hundred a week.

(No cross-examination.)

H. S. CROSBY.

Attest: CHAS. H. SWAN,
*Special Examiner.*

29 *Deposition of George C. Taft.*

BOSTON, *Feb.* 26, 1879.

Direct examination by R. L. ROBERTS, Esq., of counsel for defendants:

Int. 1. State your name, age, residence, and occupation.

Ans. My name is George C. Taft; I am sixty-five years old; I live in Worcester, Mass., and am a machinist.

Int. 2. Please look at the wrench marked "Dixie wrench" and state if you ever saw one constructed like that; and, if so, when and where.

Ans. I have seen a good many constructed just like it, in the years 1851 and 1852, in E. F. Dixie's shop, corner of Union and Exchange streets, Worcester.

Int. 3. Did you ever have any conversation with Mr. Dixie in regard to the use of a ferrule screwed upon the shank of such wrenches as shown in Exhibit Dixie wrench; if so, when and what was the substance of the conversation?

(Objected to as calling for hearsay evidence.)

Ans. I did, in 1851, at his office on Main street. He had been to New York and found that some parties found fault with his wrench on account of the pressure driving the ferrule back into the wood of the handle. He made the remark that his workmen didn't half do their work. He brought some of the wrenches home with him. I examined them and saw at once what the difficulty was, and made the remark that I should screw the ferrule on. I think he put the matter into Mr. Wakefield's hands and he made the alteration—Wakefield or Crosby, I won't say which, but it was one of them.

Int. 4. Did you have occasion at any time to observe the manufacture of wrenches like that marked "Dixie wrench" in the shop of E. F. Dixie; if so, to what extent were they manufactured, and what was the occasion of their being brought to your notice?

Ans. I have seen them in the shop. I have been in the shop frequently. Being in the wrench business, I forged his bars for him for a considerable time, and, being well acquainted, he frequently came to me for advice. The extent of his manufacture I
30 couldn't state positively, but, to the best of my judgment, he must have manufactured from two to three hundred a week.

Int. 5. Did you have occasion at any time to do any work in Mr. Dixie's shop; if so, what was it and when, as nearly as you remember?

Ans. I did. In 1853, in February and March, I finished up all my wrenches that was worth finishing up, that went through the fire at the corner of Union and Foster streets—or my men did for me, as my shop was burned in 1853—Jan. 20, I think, as nearly as I can recollect. Mr. Wakefield was foreman for Mr. Dixie at the time.

Int. 6. Please look at the wrench now shown you and say what it is, if you know, and of how old a kind of manufacture.

Ans. That is called an English spanner. I have known the wrench as early as 1829, when I commenced learning my trade.

(Wrench produced and marked "Old English wrench.")

Int. 7. Please look at the wrench now shown you and say what it is, if you know, and of how old a style of manufacture.

Ans. It is known in the market as the "Solyman-Merrick wrench," and was formerly manufactured very extensively in Springfield, Mass., from 1840 to 1850.

(Wrench produced and marked "Merrick wrench.")

Int. 8. Have you known of wrenches manufactured under your patent granted Nov. 10, 1863; if so, to what extent, and what was their standing in the market as compared with wrenches of other constructions?

Ans. I have known them to be manufactured by Dodge & Wellington, of Worcester, Mass., to the extent of about one hundred a day for two years. I never heard anything but what the wrench was well liked. It was virtually a Coes wrench, with the exception of that improvement.

Int. 9. How long have you been engaged in the manufacture of wrenches, and what has been the extent of your experience in their construction and use?

Ans. I commenced the manufacture of wrenches in 1851, and have been at it all the time, more or less, from that time down to 1869, I think, when I sold out my patents to Mr. Coes.

31 Int. 10. For the purposes for which screw wrenches are usually employed, of what degree of practical utility do you consider the wrench constructed in accordance with your said patent of Nov. 10, 1863, for withstanding the strain which is oftentimes exerted upon the jaws of a wrench?

Ans. I consider, by cutting those right-angled notches or grooves, both in the bar and the rosette, that I overcome all the difficulty of any pressure that may be given or applied to the wrench, which prevents forcing the ferrule into the wood, as was the case in the old Coes wrench.

Int. 11. Please look at the wrench now produced, marked "Dodge & Wellington manufacture," and state to what extent you should judge it had been used and what the state of preservation of the working parts of the wrench is.

Ans. That is one of the wrenches that they made during their manufacture, and I should judge it had been in use ever since. The working parts seem to be perfect now, except the general wear that would come upon the wrench.

Cross-examination by W. E. SIMONDS, Esq., of counsel for complainant:

Cross-int. 12. Please to give the given names and residences of Dodge & Wellington as they were at the time they made wrenches under your patent of 1863.

Ans. They both lived in Worcester, Mass., and do now; Thomas H. Dodge and T. W. Wellington.

Cross-int. 13. Was Mr. Thomas H. Dodge at the time Dodge & Wellington made said wrenches an attorney in patent practice, and was that his main business?

Ans. It was.

Cross-int. 14. Did he give his personal attention to the business of making wrenches?

Ans. I think not fully. He was frequently in the shop, but his clerk attended to that mostly.

Cross-int. 15. Was this Mr. Wellington solely engaged in this wrench business or did he have other business also?

Ans. He was not solely engaged. He was in the coal busi-
32 ness at the time, but his son was in the shop and looked after certain parts of the work, and his foreman that had charge of the manufacture was Thomas C. Rice.

Cross-int. 16. At what date did Dodge & Wellington commence this business, where did they carry it on, and when did they close?

Ans. I can't give the exact dates, but I think they commenced in 1866 and closed in 1868. I have the dates at home. They carried it on in Manchester street, Worcester.

Cross-int. 17. Who owned your patent of Nov. 10, 1863, at the time Dodge & Wellington carried on the business?

Ans. Thomas H. Dodge.

Cross-int. 18. Had any wrenches been made for the market under your patent of Nov. 10, 1863, before Dodge & Wellington made them?

Ans. Not to any amount.

Cross-int. 19. What means have you of knowing how many wrenches Dodge & Wellington made under your patent of Nov. 10, 1863?

Ans. I was so informed by Mr. Rice, their foreman.

(Basing his action upon the information afforded by the last answer, complainant's counsel objects to Int. 8 and its answer as being hearsay evidence.)

Cross-int. 20. Do you know whether or not this business of Dodge & Wellington was a success financially?

(Objected to as immaterial.)

Ans. I do not. I have no means of knowing.

Cross-int. 21. Do you know why Dodge & Wellington gave up this business?

Ans. I believe they couldn't agree to go on and agreed to close up the business.

Cross-int. 22. Do you not understand that your patent of Nov. 10, 1863, has since been sold to one or both of the present defendants?

Ans. I do.

Cross-int. 23. Do you not understand that the present de-
33 fendants have of late made wrenches under your patent of Nov. 10, 1863?

Ans. I do know that they have.

Cross-int. 24. Do you not understand that such manufacture by these present defendants was commenced since the present suit was brought?

Ans. No, I couldn't tell when they did commence.

Cross-int. 25. Do you know, of your own knowledge, to what extent Dodge & Wellington sold in the market wrenches made by them under your patent of Nov. 10, 1863?

Ans. I don't know.

Cross-int. 26. Did you originate the construction claimed in your patent of Nov. 10, 1863, subsequently to the time when you suggested to Mr. Dixie that the ferrule should be screwed upon the wrench bar?

Ans. Yes.

Cross-int. 27. And did you consider that mode of getting the back thrust to the wrench bar shown in your patent of Nov. 10, 1863, a substantially different mode from that shown in the Dixie wrench?

(Objected to as incompetent.)

Ans. I consider it a cheaper way of constructing the wrench than a screw; by that I considered it an improvement over the Dixie or Coes wrench.

Cross-int. 28. Mechanically considered—that is, looked at as practical mechanics consider such matters—did you consider the mode of getting the back thrust to the wrench bar shown in your patent of Nov. 10, 1863, a different mode from that shown in the Dixie wrench?

(Same objection as to the last preceding question.)

Ans. I considered it different for this reason, that it was cheaper made than a screw and it answered the same purpose, and if the wrench got out of repair it was easier taken apart than a screw to repair the wrench.

GEO. C. TAFT.

Attest: CHAS. H. SWAN,
*Special Examiner.*

34 BOSTON, *Feb.* 27, 1879.

Counsel for defendants introduces in evidence a certified copy from the records of the United States Patent Office of the letters patent No. 2054, dated April 16, 1841, and granted to Loring Coes for improvement in the method of constructing screw wrenches, and the same is marked "Exhibit Coes' Original Patent."

Counsel for defendants also introduces in evidence a certified copy from the records of the Patent Office of the letters patent No. 40590, dated Nov. 10, 1863, and granted to Thomas H. Dodge, as the assignee

of George C. Taft, for improvement in wrenches, and the same is marked "Exhibit Taft Patent."

*Deposition of Hervey Waters.*

BOSTON, *Feb.* 27, 1879.

Direct examination by GEO. L. ROBERTS, Esq., of counsel for defendants:

Int. 1. State your name, age, residence, and occupation.

Ans. My name is Hervey Waters; I am seventy-four years old; I live in Boston, and am a machinist; accustomed to testify as an expert in patent causes in the United States courts.

Int. 2. Have you examined Coes' original patent, No. 2,054, granted April 16, 1841, and do you understand the construction of the wrench embodying the invention therein described; and, if so, is the wrench here produced constructed substantially in accordance therewith?

Ans. I have examined a certified copy from the Patent Office of the original Coes patent inquired of, and I understand the construction of the wrench therein described, and also its mode of operation. This wrench inquired of is in conformity with the description of the patent, both in its construction and mode of operation.

(The wrench produced is put in evidence and marked "Exhibit Coes' Original Patent Wrench.")

Int. 3. What are the principal distinguishing features which characterize this wrench originally patented to Coes as compared with the other wrench, described in Coes' original patent as then belonging to the prior state of the art, and also as compared with the wrench Exhibit Old English Wrench? And in this connection please state, by way of premise, whether such wrenches as the Exhibit Old English Wrench and Exhibit Merrick Wrench have been known to you, and for how long.

Ans. The old English wrench and the Merrick wrench I have known for a good many years, and especially the old English wrench. I cannot tell with much precision how many years I have known these wrenches, but I have known the old English wrench fifty years or more and the Merrick wrench for half as long, I should say.

These wrenches are all adjustable wrenches, being substantially the same in the fact that they are adjustable to different sizes of nuts and screws, but varying in the method of adjustment, and therefore in their specific construction.

In the old English wrench it will be seen that the adjustment is made by turning the handle of the wrench, in the interior of which there is a screw nut or female screw working upon a thread cut upon the lever of the wrench, so that the outer jaw is worked towards and from the inner jaw by turning the handle of the wrench.

In the Merrick wrench there is a thread upon the bar or lever of the wrench between the handle and the outer jaw, but the handle

does not turn upon the lever of the wrench, nor does the distance between the outer jaw and the handle ever change in the adjustment of the wrench as that distance does change in the old English wrench. This Merrick wrench is the wrench described in the patent inquired of as belonging to the then prior state of the art.

In this Merrick wrench the inner jaw is make to traverse upon the lever or bar of the wrench for the purposes of adjustment, and is kept in the same plane with the outer jaw by means of a mortise in the inner jaw which clasps the bar of the wrench and fits it substantially, and the inner jaw is kept from cocking upon the bar by means of this mortise, and also of a bearing upon the adjusting nut of the wrench where a clasp surrounds the nut, and this clasp is connected with the inner jaw by means of an arm. This
36 clasp surrounds the nut in a groove, so that when the nut is screwed back and forth upon the bar the inner jaw is drawn back and forth, and in the use of the wrench for turning a bolt or nut the end thrust of the jaw is taken upon one shoulder of the nut through the arm which supports the jaw to the clasp, the clasp bearing against the shoulder of the nut. In adjusting the wrench to different sizes the operative turns the nut with his thumb and finger usually, or with the thumb alone, if he can, while holding the wrench by the handle, while in the old English wrench he adjusted the wrench by turning the handle and usually while holding the wrench in his other hand.

Going now to the Coes wrench, it will be seen that the inner jaw of the wrench works upon the bar or lever of the wrench the same as the inner jaw of the Merrick wrench, but this Coes wrench has a secondary mortised block or support sliding upon the bar, which is connected to the jaw by means of an arm or connecting piece, so that the inner jaw is kept from cocking by means of these two mortised pieces which work upon the bar; and it will also be seen that there are these emphatic differences between the Coes wrench and the Merrick wrench:

In the Merrick wrench, when it is put to use, the tendency is to cock the inner jaw, and with it the arm which connects the jaw with the clasp, so that the arm forces the clasp down upon the nut and upon the screw upon the lever or bar of the wrench, while in the Coes wrench it is forced down upon the bar of the wrench, where there is no screw as there is in the Merrick wrench.

Moreover, the end thrust of the jaw is not thrown upon the shoulder of a nut in the Coes wrench, but is thrown upon a screw independent of the bar or lever of the wrench and parallel thereto, which screw works into the inner jaw and its connections, where there is a female screw to receive it.

Taking again the Merrick wrench, it will be seen that as the adjustment is made the nut which makes the adjustment travels away from the handle, while in the Coes wrench the nut or rose upon the screw, by which the adjustment is made, is always in the same position and can be turned by the thumb alone applied to the corrugated periphery of the nut or rose.

These differences between the Coes wrench and the Merrick
37 wrench make the Coes wrench the most desirable of the two, and they have accordingly taken the market to the exclusion of the Merrick wrench, nearly, if not quite altogether, for the past twenty years or so, *and* so far as I know, while the old English wrench is seldom purchased in the market, so far as I know, and seldom seen in the shops or other places where these wrenches are used.

Int. 4. Have you examined the patent No. 40590, dated Nov. 10, 1863, and granted upon the invention of George C. Taft, and do you understand the construction of the wrench and its improvement therein described; and, if so, is the wrench here produced constructed substantially in accordance therewith, except that in two places there has been a cutting away to show interior construction?

Ans. I have examined a certified copy of the patent inquired of and understand the construction of the wrench described in it, and this wrench inquired of is constructed according to the description in that patent.

(The wrench referred to is put in evidence and marked "Defendants' Exhibit Taft Patent Wrench.")

Int. 5. To what specific form of wrench does the improvement described in this Taft patent appertain, and what is the distinguishing peculiarity of it?

(Objected to as leading and argumentative.)

Ans. In my judgment, it appertains to the wrench described in the Taft patent. What I mean by this is: The wrench described in the Taft patent is the Coes wrench, to all intents and purposes, but it is specifically different from the Coes wrench in the fact that the end thrust of the screw is taken upon the bar of the wrench by means of the nuts or rosettes upon the screw bearing directly upon the bar instead of bearing upon the step plate of the wrench, and then indirectly upon the bar or lever of the wrench through the handle and nut which are upon that bar. In consequence of this difference the wooden handle upon the wrench lever is relieved from the end thrust of the screw in the Taft wrench, while it bears against the handle in the Coes wrench. This is a specific and essential difference between the Taft wrench and the Coes wrench, as I under-
stand it; but it is more than a specific difference, in my
38 judgment. It constitutes a somewhat broad and essential difference in the construction of the Coes wrench. It is not applicable to any other wrench that I know of, except the Coes wrench.

Int. 6. For the purpose of further classification of prior wrenches, will you point out the resemblances and differences between the Defendants' Exhibit "Dixie Wrench" and the Coes wrench, including both varieties, illustrated by the Exhibits Defendants' "Coes Original Patent Wrench" and Defendants' "Taft Patent Wrench?"

Ans. This Dixie wrench is much like the Merrick wrench, differ-

ing from it only in the fact (so far as the operation of the wrench is concerned) that in the Merrick wrench the clasp, which is connected with the inner jaw which surrounds the nut, is replaced in the Dixie wrench by a nut which surrounds a sleeve screw, or a screw which constitutes a sleeve surrounding the bar of the wrench, so that the adjustment is made by turning the screw upon the bar of the wrench and within a nut instead of by turning the nut upon a screw upon the bar of the wrench.

In consequence of this difference the adjustment can be and is made by means of a rosette upon this screw sleeve, which rosette is corrugated upon its periphery, and can be and is operated substantially as the rosette is operated in the Coes wrench, the rosette always remaining in the same position as in the Coes wrench.

But it should be observed here that the rosette is not in the same position in the Coes wrench that it is in the Dixie wrench.

Moreover, in this Dixie wrench the end thrust, due to the strain upon the jaws of the wrench being thrown upon this screw sleeve, tends to thrust the screw toward the handle end of the lever of the wrench, and in the use of the wrench that end thrust is taken upon a nut screwed directly upon the bar or lever of the wrench up against a shoulder thereon so as to maintain the nut in position; and in this respect the Dixie wrench differs from all the others inquired of, as well the Coes proper as the Coes-Taft wrench.

Moreover, in this Dixie wrench there enters into its construction a wooden handle, which wooden handle, like all the other three, consists mainly of a wooden sleeve surrounding the bar or lever of the wrench and kept in position by means of a nut at the
39 extreme end of the lever of the wrench, which wooden sleeve in the Coes wrench proper takes the end thrust of the jaw, which end thrust in the Taft wrench is taken upon projections on the bar of the wrench before the step plate, while in this Dixie wrench it is taken directly upon a nut immediately behind the screw sleeve.

Moreover, this nut in the Dixie wrench has upon it a flanch, or, to describe it otherwise, it is recessed next to the handle so that it might receive the handle and serve for a ferrule to the handle; but the handle does not enter the recess, so that the flanch serves as a ferrule in this Dixie exhibit.

Int. 7. Have you examined the original letters patent, No. 50364, dated Oct. 10, 1865, and granted to Lucius Jordan and Leander E. Smith, and also the reissue thereof, No. 5294, dated Feb. 25, 1873, and granted to the Collins Company, as assignee of the said Jordan & Smith, and do you understand the construction and operation of the wrench and its several parts therein described? If so, please state which form of wrench already examined by you it most nearly resembles.

Ans. I have examined certified copies of the patents inquired of and I understand the construction and mode of operation of the wrench described in them. The wrench described in these patents is a Coes wrench. Moreover, it is substantially a Taft-Coes wrench, but constructed specifically different from either the Taft wrench

proper or the Taft-Coes wrench; but this Jordan & Smith wrench described in the patents inquired of resembles most nearly the Coes-Taft wrench described in the patent already referred to in this examination.

I notice in this reissue inquired of the following statement:

"The object of this invention is the prevention of end thrust or back pressure on the wooden handle of wrenches, which has heretofore availed to quickly destroy such wooden handles, and in destroying the handles has left the working parts of the wrench, which depended upon the handles for support, without such support, so as to injure and effectually impair their working qualities and efficiency, and is accomplished by so connecting the step which forms a bearing for the lower end of the screw rod with the bar which forms the main part of the wrench that the back pressure put upon the step by the screw rod will be directly transmitted to the wrench bar at the place of connection therewith, and will not be transmitted to and mainly put upon the wooden handle."

Now, the objection which Jordan & Smith in this patent propose to remedy does not exist in the Coes-Taft wrench, but does exist in the Coes proper, to which I understand Jordan & Smith to refer in the paragraph just quoted.

Int. 8. In another part of the specification, which also refers to the prior state of the art, I find the following language:

"Heretofore the part designed to perform the office of the step E has rested directly on the wooden handle, which was secured upon the bar by a light nut, *o*, at the lower extremity of the bar, which is the present method of fastening on the handle."

Does the wrench now shown you, marked "Defandants' Exhibit Coes' Wrench, Original Manufacture," embrace substantially that peculiarity of construction described and referred to in this quotation?

Ans. It does. I don't remember of ever having seen any Coes wrenches proper which were not like this exhibit inquired of, in which the ferrule of the handle is attached to the step plate and forms a part of it.

The Coes wrench, as described in his original patent, had the ferrule separate from the step plate, but I do not remember of ever having seen a wrench constructed precisely like the wrench described in the original Coes patent until I saw this exhibit marked "Coes' Original Patent Wrench."

Int. 9. Immediately following the quotation last made from the complainant's reissue I find the following further reference to the prior state of the art:

"It is known that previous to this invention steps have been forged or otherwise produced solid with the bar, and this became as much a part of it as the solid head at extremity of bar, and also by riveting to reach similar result; but such method, by making a permanent fastening, renders it impossible or a work of great difficulty to displace the step in order to remove the sliding jaw for repairs."

41 To what mode of construction do you understand the riveting mentioned in the quotation to refer?

Ans. The mode of construction represented by this wrench which I now produce, where, it will be seen, the step plate and the ferrule are both connected, the same as in the wrench marked "Coes' Wrench, Original Manufacture," and through this step plate in this exhibit and through the bar of the wrench a hole has been bored, in which hole a rivet or bolt has been inserted and the two ends of that bolt riveted over to keep it in place.

(The wrench referred to is put in evidence and marked "Defendants' Exhibit Riveted Wrench.")

(Adjourned.)

FEBRUARY 28, 1879.

Int. 10. In view of the prior structures which you have had under examination, illustrated by the Exhibits "Old English Wrench," "Merrick Wrench," "Coes' Original Patent Wrench," "Coes' Wrench, Original Manufacture," Dixie wrench, Taft patent wrench, and riveted wrench, what, if anything, do you find to be new in the wrench described in complainant's reissue No. 5294?

Ans. The novelty in the wrench described in the patent inquired of consists in the specific contrivance for holding the step plate against the strain of the thrust of the adjusting screw, while, at the same time, the sleeve forming the handle is held in position at its upper end against any side strain upon the handle in turning the wrench, and this is the only novelty in it, in my judgment; and, in order to prove that I am right about this, I may and will describe certain things and combinations entering into the construction of this wrench which are found referred to in the patent, but which are also found in some one of the previous wrenches to which the question refers.

I have already quoted from this patent, in this deposition, the paragraph which states the object of the invention and begins with these words: "The object of this invention is the prevention of end thrust or back pressure on the wooden handle of wrenches," and I have already stated that this object was accomplished in the wrench described in the Taft patent—and I suppose that this will not be disputed by the complainant—so that there can be nothing
42 broadly new in this wrench in reaching this result, but the novelty must consist in the specific means by which this result is reached.

Going again to the patent, I find a description of the drawing in the patent and then a "general description" of the wrench, having reference to the drawing, going to show how the wooden handle is relieved from pressure in the use of the wrench, and ending as follows: "The connection of the step with the bar being made in such manner that the step may be removed or taken off the bar without any cutting or abrasion of parts."

Now, this last-mentioned feature of the wrench is not new in this wrench broadly, for it is just as true that this can be accomplished

in the Taft wrench as it is that it can be accomplished in this wrench described in the patent, but the specific means for doing this are different in the wrench described in the patent from what they are in the Taft wrench. In the Taft wrench it is only necessary to take off one nut from the handle or bar of the wrench to get it to pieces, while in the wrench described in the patent it is necessary to take off two.

Continuing the reading of the patent, I find the following:

"The nut not only supports the step, but can be made to rigidly fasten the step to the bar by screwing it firmly up against the step, so as to gripe it between itself and the shoulder *b*, thus giving the nut, so to speak, a double office, viz., that of supporting the step and also that of fastening it rigidly to the bar."

Now, the nut referred to in this paragraph is the nut F of the drawing, but there is nothing broadly new in this double duty of the nut, because that feature is found in the original Coes patented wrench; nor is there anything specifically different in it, except the fact that in the Coes original patent wrench a sleeve intervenes between the nut and what the patent calls a "step"—what I should call the step plate.

I have here a wrench made strictly in accordance with the wrench described in the original Coes patent, both in construction and mode of operation, but the sleeve which serves for a handle is made of iron in this wrench, while in the wrench described in the patent that sleeve is made of wood but having a ferrule upon it, fitted upon the outside of the wood handle, which prevents it from splitting,
43 which ferrule comes up to and bears against the step plate, where it is kept by the nut at the end of the bar or lever of the wrench.

Now, there can be no invention in substituting this iron sleeve for the wooden sleeve, because they are well-known substitutes for each other in cases of this kind. For the purpose of holding the step plate in position the wooden sleeve with a ferrule acts precisely the same as the iron sleeve, and so it does for the purposes of a side action upon the handle in using the wrench, the only difference being that the material of iron is stronger than the material of wood.

Now, for the purposes of this double office of the nut which the patents sets out, it is immaterial whether this sleeve is of iron or of wood, so long as the strain is not great enough to endanger and spoil the wood; but there is no such danger with this iron handle, so that by substituting the iron for the wood this trouble of back pressure, which the patent says it is the object of the inventors to get rid of, is taken out of the wrench; but clearly there was no invention in substituting this iron for the wood, because the iron and the wood are well-known substitutes for purposes of this kind.

Suppose, now, that this iron sleeve be taken off from this wrench and the iron nut which acted against the sleeve be carried up directly against the step plate, then the functions of the nut are precisely the same as they were before—no more and no less.

Moreover, when the nut is so carried up against the step plate it acts for the purposes of a nut precisely and specifically as the nut

acts in the wrench described in the patent from which I have quoted.

Now, it is clear there is no invention in carrying this nut up to this position, because there is nothing new in it. The sleeve which has been removed from this wrench, when it was in position, served as a long or thick washer, which it is common to place between a nut and that upon which it acts when the bolt is too long for its place, and which may or may not be used without making any change in the office of the nut or without embodying any invention.

So it is clear there is no novelty in the contrivance, in this double office of a nut.

(The wrench just referred to is here put in evidence and marked "Defendants' Exhibit Iron Handle, Coes' Wrench.")

44 But following the quotation just made from the patent, and in the same paragraph with it, I find the following sentence: "The nut is interiorly recessed at *d* for the purpose of forming a ferrule for the top of the wooden handle." Now, here is where the novelty comes in in this wrench, and it consists in the use of this nut, not only for the two purposes just above referred to in the patent, but for the purpose as well as supporting, by means of its flanch, the end of the wooden handle to prevent it from splitting, and also against any side strain upon the handle in using the wrench.

Now, this recessed nut is not in itself new. The nut found in the Dixie wrench is the same nut as the nut found in this Jordan & Smith wrench; but in this Jordan & Smith wrench the wooden handle enters the recess or flanch of the nut, which is not done in the Dixie wrench in this case, marked "Defendants' Exhibit Dixie Wrench."

And it is this capability of the nut with its flanch to support the handle by entering the handle within the recess, so that the flanch shall act as a ferrule to support the handle, that constitutes the novelty of this wrench, as I understand it.

The supporting of the handle in this wrench by means of a flanch or ferrule, which flanch or ferrule is connected with the bar or lever of the wrench so that the side action upon the handle is taken upon its outside instead of on its inside, is not new, broadly, in this Jordan & Smith wrench.

I have before stated that the same thing was accomplished in the Taft wrench, and I now state that the same thing is accomplished in the wrench marked "Defendants' Exhibit Coes' Wrench, Original Manufacture," and it is also in the wrench marked "Complainant's Exhibit Coes' Old Wrench."

So that the novelty must and does consist in the use of the flanch upon the nut instead of the flanch being upon the step plate, as in the "Coes wrench, original manufacture," and in the Taft wrench marked "Defendants' Exhibit Taft Patent Wrench," and Complainant's "Exhibit Coes' Old Wrench."

But going now to the wrench marked "Defendants' Exhibit Riveted Wrench," I find in that wrench that the side strain of the

handle is supported by the bar of the wrench by means of a
45 flanch upon the step plate, and that the end thrust of the screw is taken upon the bar of the wrench by means of a pin or bolt which passes through the step plate and through the bar, which bolt performs the double function or double office of the nut *f*, referred to in the patent; but this pin does not perform the function of the flanch upon the nut, that office being performed by the flanch upon the step plate.

So that there is nothing in the wrench described in the reissue upon which this suit is brought, either in its construction or mode of operation, that is not found in this wrench with the bolt through it, marked "Defendants' Exhibit Riveted Wrench," except what in this patent is called the "removability of the parts" (to which I shall have occasion to refer again further on), when speaking broadly.

There is the specific difference already mentioned: that in one case the handle is supported sidewise by a flanch upon the nut, while in the other it is supported by a flanch upon the step plate, and besides, in the wrench described in the patent, the step plate is kept in position by a nut bearing directly against it, and which nut takes the end thrust of the adjusting screw, while in the wrench "Defendants' Exhibit Riveted Wrench" the step plate is kept in place by a bolt passing directly through it and through the bar of the wrench, and which bolt takes the end thrust of the adjusting screw.

But this nut, for its purposes of holding the step in place, and the bolt for the same purposes, are well-known substitutes for each other. There can be no invention in substituting one for the other in this case, when the purpose of holding the handle against any side action upon it is left out of view; or, in other words, when that does not enter into the combination of the construction of the wrench.

Going now to the patent and continuing its reading, I find the following paragraph:

"Heretofore the part designed to perform the office of the step E has rested directly on the wooden handle, which was secured upon the bar by a light nut, *o*, at the lower extremity of the bar, which is the present method of fastening on the handle."

These remarks as to the light nut *o* are not very important, any way, but they tend to mislead, because they might imply that in the construction of the old Coes wrench a lighter nut must be
46 used than in the wrench described in this patent—I mean the nut for holding the step plate in position. There is no such necessity; nor is the screw upon which the nut goes in the old Coes wrench described in the original Coes patent any smaller than can be used in the wrench described in the reissue upon which this suit is brought, so long as the mortise through the step plate is of the same size in both wrenches.

It will be seen in reference to the drawing of the original Coes patent that the bar or lever of the wrench outside of the step plate *i* is all the way of the same size, and that the screw at the end of the bar is as large as that bar anywhere between the step plate *i* and the

screw, so that the screw at the end of the bar may be as large as will pass through the mortise of the step plate, and it cannot be any larger if the screw were made directly below the step plate *i* instead of at the end of the bar, so that nothing as to the size of the screw enters into the novelties of this contrivance.

The patent then goes on and states as follows:

"It is known that previous to this invention steps have been forged or otherwise produced solid with the bar, and this became as much a part of it as the solid head at extremity of bar."

Now, as to what peculiar construction of the Coes wrench or any other wrench this refers I do not understand, but the patent continues as follows:

"And also by riveting to reach similar result."

Now, the result to be reached there, as I understand it, is to take out of the wrench its liability to destroy the wooden handle, and that liability, as I have already stated, is taken out of the wrench by putting through it the bolt, as on Defendants' Exhibit Riveted Wrench, as I have already explained in this answer; so that there is nothing new, except the specific means, as I have stated, of reaching this result, when examined in the light of the patent originally granted to Taft, now in this case, and in the light of the wrench marked "Defendants' Exhibit Riveted Wrench."

The patent continues:

"But such method, by making a permanent fastening, renders it impossible or a work of great difficulty to displace the step in order to remove the sliding jaw for repairs. It will be observed
47 that, while Jordan & Smith's method of fastening is as firm as the permanent fastenings last above referred to, their step can readily be removed and again put in place at pleasure."

Now, I am unable to discover how there can be any invention in the mere difference between the removability and non-removability for the purposes of repairs in this wrench, Defendants' Exhibit Riveted Wrench. I have already said the bolt in this wrench was riveted over at its ends to keep it in its place, and this riveting over is all that prevents the removability of the parts.

But suppose that, in the place of riveting over this bolt, the pin or bolt were made a little tapering and driven tight into a tapering hole, then the bolt would be removable and all the parts would be removable, just as much, in fact, as they are in the wrench described in the patent. I have here a wrench constructed as I have supposed.

(The wrench referred to is put in evidence and marked "Defendants' Exhibit Bolted Wrench.")

Now, there is no novelty or invention in going from the wrench Defendants' Exhibit Riveted Wrench to the wrench Defendants' Exhibit Bolted Wrench, because they are both well-known methods of keeping the pin or bolt in place, and were so well known many years before the date of the invention of Jordan & Smith, or of Coes himself, for that matter, and therefore the mere fact of removability in contradistinction to non-removability, as set out in this patent, does

not involve invention when looking beyond the specific means by which the difference between removability and non-removability is reached.

Moreover, there is not the slightest difference either in the construction or arrangement of the wrench Defendants' Exhibit Bolted Wrench and the wrench described in the patent from which I have last quoted, except in the specific means entering into its construction; and the specific means used by Jordan & Smith in their wrench do not make that wrench act any differently in its mode of operation from the specific means employed in Defendants' Exhibit Bolted Wrench or Defendants' Exhibit Riveted Wrench.

Int. 11. What do you understand to be the elements of the combination referred to in the first claim of complainant's reissue No. 5294, and described in the body of the specification; and, in
48 view of the prior structures already considered, what, if anything, do you find substantially new in such combination?

(The fore part of the question objected to as referring solely to the legal construction of the language used in the patent.)

Ans. The first claim reads as follows:

"1. The step, combined with the wrench bar and supported by the nut F or its equivalent at the place where the step is connected with the bar in such manner that the step can be removed from the bar without cutting or abrasion of parts."

Now, I do not understand that this clause of claim makes any reference to the handle of the wrench—that is to say, any reference to the sleeve which constitutes the handle of the wrench—and, inasmuch as it does not, it seems to me it does not refer to the flanch upon the nut, because that flanch is of no use upon the nut unless the handle is upon the wrench and goes into it.

If we take the wrench described in the patent and referred to in the claim just quoted and take off the wooden handle or sleeve, then the flanch upon the nut becomes useless, and therefore it may as well be taken from the nut, and so I have taken one of the complainant's wrenches made in accordance with its patent and had the flanch or ferrule cut from the nut, leaving what I understand to be referred to in the first clause of the claim, as represented by this wrench.

(The wrench referred to is put in evidence and marked "Defendants' Exhibit First-Claim Wrench."

I have not overlooked the fact that in the clause of the claim quoted the nut is called "*the*" nut and not *a* nut, and *the* nut has a flanch upon it, but that flanch does not enter into the combination of the wrench if the sleeve be left out of the wrench.

Now, there is nothing new in this combination, as is shown by reference to Defendants' Exhibit "Coes' Original Patent Wrench," because the nut upon the bar in the Coes wrench acts in combination with "the step, combined with the wrench bar and supported by the nut F or its equivalent, at the place where the step is con-

nected with the bar, in such manner that the step can be removed from the bar without cutting or abrasion of parts."

I do not mean to say that in that wrench the nut, in order
49 to effect this, is or must be immediately against the step plate, but it is kept in "the place where the step is connected with the bar" just as much and as well whether the nut bear against a sleeve, if the sleeve is sufficiently strong or directly against a plate, performing all the requirements of a wrench, to all intents and purposes, in that position if the sleeve of the wrench be left out of the combination or if the sleeve of the wrench enter into the combination and is made of iron instead of wood; and this, in the Coes wrench, is accomplished "in such manner that the step can be removed from the bar without cutting or abrasion of parts," the same as in the wrench described in the patent and referred to in the first clause of claim, as I understand it.

So there is nothing new in the combination referred to in this claim, if I am correct in regard to the reference.

(Adjourned.)

MARCH 1, 1879.

Int. 12. The evidence shows that in the manufacture of the Dixie wrenches the upper ends of the handles were entered into the recess of the nut in such manner that the flanch served as a ferrule for the handle. Assuming this to be the fact, what, if anything, would there be new in the combination recited in the second claim of the complainant's reissue 5294 and described in the body of the specification, if that claim be so construed that the words "the wrench bar" therein should be taken to mean *a* wrench bar to which the recessed nut F is applicable for the purposes of withstanding the end thrust of the parts above it, and of receiving, supporting, and protecting the handle by the flanch upon it?

Ans. Nothing; because in the Dixie wrench inquired of there is the nut F combined with a wrench bar and interiorly recessed at D for the purpose inquired of in the question.

Int. 13. What do you understand to be referred to in the third claim of complainant's reissue No. 5294 and described in the body of the specification, and how is the combination of elements designated therein to be distinguished, if at all, from the combination specified in the first claim?

Ans. The third claim inquired of reads as follows:

"The nut F, combined with the threaded bar and per-
50 forming the office of supporting the step, and also of rigidly fastening it to the bar, for the purpose set forth."

I understand this claim to refer to the nut F combined with the threaded bar and also with the step plate, because the step plate could not be supported by the nut unless it were put into combination with it and the bar in this construction; and when they are so combined the step can be removed without cutting or abrasion of parts.

And therefore I consider that the same parts are referred to in the third claim as in the first—no more and no less.

I understand that the sleeve is not contained in either combination of either the first or third claim.

Int. 14. In the body of the specification there is language descriptive of what is there spoken of as a double office of the nut F, namely, "that of supporting the step, and also that of fastening it rigidly to the bar," by griping the step plate between the nut F and the shoulder *b* upon the bar; and the third claim contains language substantially identical with that which I have quoted.

Taking this so-called double office of the nut into view, are you able to distinguish the combination specified in this third claim from that specified in the first claim; and, whether it is or not to be so distinguished, what, if anything, do you find new therein?

Ans. Nothing. I have already said, in answer to the question regarding the third claim, that the parts referred to in that claim, in my judgment, were represented and embodied in the wrench marked "Defendants' Exhibit First-Claim Wrench;" and I have also said that the parts referred to in the third claim were, in my judgment, the same as those referred to in the first claim, and therefore this wrench, Defendants' Exhibit First-Claim Wrench, embodies the parts referred to in the third claim, and I have said that everything that was there embodied was found in the original Coes wrench, Defendants' Exhibit "Coes' Original Patent Wrench," and that this last-named wrench was found described in Coes' original patent.

Int. 15. In your examination of the complainant's reissue No. 5294 you have pointed out what you have found to be new in the structure therein described, independently of the claims. Will you now compare the wrench complained of, exemplified by
51 "Complainant's Exhibit Defendants' Manufacture," with the wrench described in the reissue, and state whether you find anything in the wrench of defendants' manufacture complained of substantially like anything which possesses any novelty in the wrench described in the complainant's reissue? And give your reasons for such opinions as you may express.

Ans. No; I do not. I have already said in this deposition that the wrench described in the complainant's patent had nothing new in it, in its mode of operation, and I repeat the same here, with this addition, that there is nothing new in its mode of operation, whether considered broadly or narrowly, either specific or otherwise.

Going to its construction, I find that there is nothing broadly new in that, but what there is new consists in the specific means used in its construction for the support of its parts in the various operations of the wrench. These specific means consist of the nut, with the flanch attached to it, in combination with the bar or lever of the wrench and with the step and the sleeve or handle which goes within the flanch upon the nut, by means of which flanch and nut the handle is kept firm upon the bar of the wrench at its upper end, the inside of the flanch supporting the handle upon its outside and preventing it from splitting or being thrown sideways in the use of the wrench.

If there is anything in this wrench of complainant coming up to

the dignity of invention it must stand upon the narrow ground of the specific devices mentioned, because that, broadly speaking, the same had been accomplished in the riveted wrench to which I have referred to in this deposition. Going now to "Complainant's Exhibit Defendants' Manufacture" I find the devices there essentially different from what they are in the complainant's wrench. This wrench which is alleged to infringe complainant's patent has no recessed nut, nor is there any flanch upon the nut; but there is a flanch upon the step plate, just the same as in the Taft wrench and for the same purpose, and just the same as in the "Coes wrench, original manufacture," and for the same purpose, and just the same as in the "riveted wrench" and for the same purpose, and just the same as "Complainant's Exhibit Coes' Old Wrench" and for the same purpose.

52 Now, this wrench which is alleged to infringe is constructed by taking the Coes wrench, original manufacture, and taking off the nut which holds the sleeve and the sleeve and cutting a thread upon the bar within the flanch upon the step plate and putting a nut on the bar up inside of that flanch, and then inserting the handle in the flanch upon the plate just as it was before, except at a less distance within the flanch, and putting on the nut at the bottom of the handle just as it was before, thus changing the original Coes manufacture to the new Coes manufacture, which is alleged to infringe the complainant's patent.

Suppose, now, we wish to change the wrench, old Coes manufacture, to the complainant's wrench; the first thing that would have to be done would be to cut off the flanch upon the step plate in the original Coes manufacture wrench and throw it out of the construction of the wrench, then take the Dixie nut with its flanch and put it onto a thread upon the bar and up against the step plate without the flanch, as I have before stated; then fit the sleeve of the wrench into that flanch and hold it up to the flanch by means of the nut at the end of the bar, just as was done before in the Coes wrench.

Now, these are two ways or two sets of means for accomplishing a similar result, the means being entirely different, and by "entirely" I mean as a whole.

Suppose, now, that after the flanch is cut away from the step plate in the original Coes manufacture wrench and thrown out of the wrench, as I have before supposed, and then the nut which supports the step plate in the wrench which is alleged to infringe were put up against the step plate as it is in "Complainant's Exhibit Defendants' Manufacture," then there would be nothing left to support the handle or sleeve of the wrench by the outside of the sleeve, but it would have to be entirely supported by the inside.

The wrench I have here shows just what I mean.

(The wrench referred to is offered in evidence and marked "Defendants' Exhibit Flanchless Wrench.")

There is another difference, which grows out of the differences which I have mentioned: The nut in the wrench "Complainant's Exhibit Defendants' Manufacture" performs the two offices set out

with a good deal of verbiage in the complainant's patent, which two offices consist in holding the step plate rigidly to its shoulder,
53 and also of taking the end thrust of the adjusting screw in the use of the wrench; but I have shown that these two offices of the nut are found in the original Coes patented wrench.

I have also found that the nut with its flanch, in the complainant's wrench, supported the sleeve in its side action as well as performing the other two offices, but that is not the case in the wrench "Complainant's Exhibit Defendants' Manufacture;" and I have also shown that without this third accompaniment or quality of the nut in complainant's wrench there is nothing new in its combination with the step and with the bar of the wrench.

And there still remains to be mentioned this difference in the two wrenches: In the complainant's wrench the handle is supported upon its outside by the bar of the wrench at the point where the screw thread is, upon which the nut goes.

In the wrench Complainant's Exhibit Defendants' Manufacture the handle is supported upon its outside by the bar of the wrench by means of the step plate, where it is mortised onto the bar of the wrench, the same as is done in the wrench "Defendants' Exhibit Riveted Wrench."

Int. 16. Assuming the first and third claims of complainant's reissue 5294 to each embrace, in the combination therein specified, respectively, that feature of construction possessed by the nut F which you have called the flanch upon it, and the offices performed by such flanch, do you or not find the same to be substantially embraced or embodied in defendants' wrench complained of, illustrated by "Complainant's Exhibit Defendants' Manufacture?"

Ans. No.

Int. 17. Do you find the combination of devices specified in the second claim of complainant's reissue No. 5294 to be substantially embraced or embodied in defendants' wrench complained of, illustrated by "Complainant's Exhibit Defendants' Manufacture?"

Ans. If the flanch with the handle or sleeve be considered as making part of the combination claimed, no.

If the flanch be not considered as making part of the combination claimed, yes.

Int. 18. The language of this second claim is as follows:
54 "2. The nut F, combined with the wrench bar, and interiorly recessed at *d*, for the purpose set forth."

What do you understand to be the purpose set forth in the specification for which the nut F is interiorly recessed at *d*?

Ans. To receive the handle and support it upon the bar as I have stated it was supported.

Int. 19. Do you or not understand that the flanch with the handle or sleeve is referred to in this second claim as making part of the combination therein specified?

(Objected to as calling for legal construction solely of language used in the patent.)

Ans. No; I do not. I think it was intended to leave it out, and

I think the language does leave it out; but this, I well understand, is a question of law which it is not for such as me to answer, except so far as I understand the paper is descriptive of the parts referred to in the claim of the patent, taken together with the whole patent.

Int. 20. If the flanch upon the nut F be considered as not making part of the combination referred to in the second claim of complainant's reissue No. 5294, what, if anything, do you find to be new in the combination, so considered?

Ans. Nothing. I have already shown that the same existed in the original Coes patented wrench, including the nut F, the step plate, and the wrench bar, but without the recess or flanch upon the nut, so that whether the second claim includes the step plate or not, it is not new if you leave out the flanch upon the nut F.

Int. 21. In the course of the evidence introduced on behalf of complainant in this case it has been said that the wrench described in complainant's reissue patent No. 5294 belongs to that class of wrenches having a fixed and a movable jaw, which are known as "hammer wrenches." Is the term "hammer wrench" necessarily descriptive of this class?

Ans. No; it is a new name to me. I have never heard them called hammer wrenches, but I have heard them called monkey-wrenches.

I have before me an unabridged copy of Webster's Dictionary of the edition purporting to have been published in 1876, and
55 turning to the word "monkey-wrench" I find it to mean "a wrench or spanner having a movable jaw," and I also find there a pretty poor picture of the old English wrench which is in this case; and this old English wrench is a wrench which can be used as a hammer when it is not in use as a wrench; but it can never be used as a hammer when it is used as a wrench, and therefore it is not a hammer wrench.

I have observed that in the original patent to Coes the outer jaw of the wrench is termed the "hammer jaw;" but that feature of the jaw which enables it to be used as a hammer has nothing to do with its uses as a wrench. This wrench, marked "Defendants' Exhibit Riveted Wrench," is just as much a Coes wrench, notwithstanding it has that feature of the outer jaw which makes it a hammer jaw removed; or, in other words, notwithstanding the wrench has been made without it.

Int. 22. The expert who has testified in behalf of complainant in this case has said, referring to the construction of the wrench described in complainant's reissue No. 5294, that "this mode of fastening the step does not in any manner weaken the wrench bar, but, on the contrary, strengthens it." Is this statement strictly and mechanically correct, in your judgment?

Ans. No. It does weaken the wrench bar more than would be done if the nut were put at the end of the wrench bar, everything else being equal—that is, the mortise through the step plate being of equal size in both cases.

This iron-handle Coes wrench has two screws upon it—one at the end of the wrench bar and the other immediately below the step

plate. These screws are both of a size, and may be as large as will pass through the mortise in the step plate. In the wrench Coes' original patent wrench the screw at the end of the wrench bar is of the same size as the wrench bar immediately below the step plate, where the screw is on the bar of the wrench last referred to, and the whole may be as large as will pass through the mortise in the step plate. Now, in order to carry the nut from the end of the bar up to the step plate, the bar of the wrench must be threaded up near the step plate all the way, or else bossed out between the screw at the end of the bar and the screw next the step plate, as is
56 done in Defendants' Exhibit "Iron-Handle Coes' Wrench;" and this cannot be done in the original Coes wrench without weakening the wrench bar, as will be obvious, because that when the thread is cut upon the wrench bar it is weaker than it was before the thread was cut, and this weakening comes at the point where the bar is most likely to bend when it is used as a lever for turning the wrench, which is near the step plate.

(Adjourned.)

MARCH 3, 1879.

Cross-examination by W. E. SIMONDS, Esq., of counsel for complainant:

Cross-int. 23. Do you find in the wrench "Complainant's Exhibit Defendants' Manufacture" a step combined with the wrench bar and supported by a nut at the place where the step is connected with the bar in such manner that the step can be removed from the bar without cutting or abrasion of parts?

Ans. Not quite. I find the step is supported upon the bar by the nut immediately adjacent to the step, but not at the point where the step is connected with the bar.

The step is connected with the bar by means of a mortise through the step which fits upon the bar, and the step rests against a shoulder also upon the bar, against which shoulder it is kept by the nut upon the opposite side of it.

Cross-int. 24. What is the distance between the bottom or lower end of that mortise and the top of that nut?

Ans. There is no distance, if I understand the question. I understand the question to mean that the bottom of the mortise is at that side of the plate against which the nut bears, and that the top of the nut is at the side that bears against the plate, and one begins where the other leaves off.

Cross-int. 25. With reference to the following-named exhibits, put in evidence by defendants, viz., "Old English Wrench," "Merrick Wrench," "Coes Original Patent Wrench," "Coes Wrench, Original Manufacture," "Dixie Wrench," "Taft Patent Wrench," and "Riveted Wrench," do you find in any one of these exhibits a step combined with the wrench bar and supported by a nut, or its equivalent, when that nut, or its equivalent, is located at the place
57 where the step is connected with the bar, or "immediately adjacent" to such place, and when the manner of such sup-

port is such that the step can be removed from the bar without cutting or abrasion of parts?

Ans. No; strictly speaking, I do not; but leaving out of the question "without cutting or abrasion of parts," then the answer is yes.

In this riveted wrench the bolt is equivalent to the nut and a well-known equivalent for it in the wrench "Complainant's Exhibit Defendants' Manufacture," and the bolt in one holds the plate upon the bar in the same position that the nut holds the other, only the plate is held upon the bar by the bolt directly at the point where the plate is supported by the bar instead of below, as the nut holds it.

Now, this riveting of the bolt has nothing to do with holding the plate upon the bar; it is for the purpose of preventing the pin from being jarred loose and lost out. If the bolt were driven in tight the operation of the wrench would be just the same in every particular, not only in its mode of operation but in its entire structure. There is no different strain upon the bolt in the use of the wrench, whether it is held in place by riveting or driven tight into its place so that it will stay there, as is done in the wrench Defendants' "Exhibit Bolted Wrench;" and I have already said that there was no invention between the riveted wrench and the one last referred to, and in the wrench last referred to I do find "a step combined with the wrench bar and supported by a nut or its equivalent, when that nut or its equivalent is located at the place where the step is connected with the bar or 'immediately adjacent' to such place, and when the manner of support is such that the step can be removed from the bar without cutting or abrasion of parts."

(All of the answer after the word "No" objected to as irresponsive.)

Cross-int. 26. Did you ever see or know of, either in market or in use, a wrench constructed like Defendants' Exhibit "Riveted Wrench," or a wrench constructed like Defendants' Exhibit "Bolted Wrench?"

Ans. I don't remember that I ever did.

Cross-int. 27. How long have you been a machinist or expert?

58 Ans. I went to my trade as a machinist when I was about sixteen, I believe, and I am now seventy-four; and my occupation has been either machinist or expert, or both, since I was sixteen, nearly all the time.

Cross-int. 28. What do you mean by "cocking," as you have used the word?

Ans. I mean that in these monkey-wrenches the inner jaw which slides upon the bar to adjust it, and when the wrench is put to use after the adjustment, the nut or bolt, or whatever is acted upon by the wrench, acts upon that jaw at one side of the bar, and therefore tends to tip that jaw upon the bar, so that the jaw would turn upon the bar as the cock of an old-fashioned musket turns upon its tumbler when the cock was drawn back—that is, so far as it could turn upon the jaw—there being nothing but the mortise to prevent

it, and the bar and the jaw would both be ruined in a little while if it was not otherwise supported.

Cross-int. 29. Then, is it an improvement or advantage to prevent the cocking of the jaw?

Ans. Certainly it is; it is an advantage; I don't know what you mean by "improvement." I have never seen a monkey-wrench without something to prevent this cocking.

Cross-int. 30. What parts and what mode of operation must a wrench have to be a Coes wrench, within your meaning of that term?

Ans. The parts which are found in the wrench described in the original patent to Coes which is in this case and the mode of operation indicated in that patent by dotted lines indicating the outlines of a hand in the drawing thereunto attached.

It must have a jaw with a mortise upon the bar, as in the old English wrench and the Merrick wrench, and, integrally connected with that jaw, another mortised piece to slide upon the bar, and in this piece constituting the jaw and the other sliding block and its attachment, which attachment is on the side of the bar where the jaw extends from the bar for its work, there must be a female screw, and in this female screw must work an adjusting screw, having a step or journal in a plate also mortised upon the bar so as to support the other end of the screw and thereby keep the screw parallel with the bar of the wrench in all directions, and on this
59 screw there must be a rosette or wheel or button, so that the screw can be turned by the thumb of the operator while holding the wrench in his hand by its handle or lever.

Now, it will be seen that the back thrust upon the inner jaw is taken upon the screw at one side of the bar instead of directly upon the bar, as in the old English wrench and the Merrick wrench, and that when the wrench is put upon a nut to turn it, with the bar next the operator, and the lever of the wrench is pulled towards the operator, there is no considerable tendency to cock this inner jaw because of the support being upon one side of the jaw instead of immediately upon it; and besides that, in consequence of this second block in connection with the inner jaw, there is no side strain upon the adjusting screw as there is in the old English wrench and in the Merrick wrench; nor does the screw act as a lever in any sense in the Coes wrench, while it does so act in the English wrench and in the Merrick wrench; consequently the adjusting screw may be very much smaller, and therefore much more easily turned by the thumb than can be done in the Merrick wrench, and also, in consequence of this difference, the rosette is always in the same place and always in a better place to be turned by the thumb of the operator in the Coes wrench than it is in the Merrick wrench.

Cross-int. 31. You have called Coes' original patent wrench and Taft patent wrench both "Coes' wrenches." In the former the back thrust received by the adjusting screw is by it transmitted to the step; in the latter the back thrust received by the adjusting screw is not transmitted to the step, but goes directly from the screw (through the medium of the rosette, made integral with the screw) to the

wrench bar. Now, in a Coes wrench is this difference non-essential? That is, may the back thrust put upon the adjusting screw be transmitted in either of the ways named and the wrench still remain a Coes wrench?

Ans. To the question as first put, without the latter qualification or explanation, the answer is, No; it is essential; the Taft wrench, taken as a whole, with its wooden handle or sleeve, being better, in respect to the wear and tear of the wooden sleeve, because the wooden sleeve is relieved in the Taft wrench from the strain of the end thrust of the adjusting screw.

60 But the back thrust put upon the adjusting screw may be transmitted in either of the ways named and the Taft wrench still remains a Coes wrench; but the Coes wrench is not a Taft-Coes wrench, nevertheless.

Cross-int. 32. Did you ever see or know of, either in the market or in practical use, a wrench with an iron handle like the iron-handle Coes wrench?

Ans. No.

Cross-int. 33. Is the handle of that iron-handle Coes wrench the same in construction (not meaning now difference in material) as the handle of either the "Old English wrench," the "Merrick wrench," "Coes' original patent wrench," "Coes' wrench, original manufacture," "Dixie wrench," "Taft patent wrench," "riveted wrench," or the "bolted wrench?"

Ans. I suppose that by this question the thing inquired of is the sleeve, which constitutes a portion of the handle of the wrench and is supported upon the wrench by the bar or lever of the wrench.

Now, it is not the same in construction, either of itself or in the construction of the wrench, as the sleeve or handle of the old English wrench, because the sleeve of the old English wrench has a female screw within it.

But it is, *per se*, the same construction as the sleeve of the Merrick wrench for all the purposes of the wrench, but there is a ferrule upon the wooden sleeve of the Merrick wrench to keep the wood from splitting; but if the ferrule were omitted the sleeve, so long as it lasted, would be just as good without the ferrule as with it, while the iron sleeve inquired of, being of iron and not of wood, needs no ferrule, because it would be no stronger with a ferrule than it would without, provided the ferrule were of the same material with the sleeve.

The same remarks which I have made regarding the Merrick wrench hold good concerning the Coes original patent wrench; but when we come to the Coes wrench, original manufacture, we find that the ferrule which is upon the sleeve and also upon the step plate performs a double office. It prevents the wood from splitting and supports the sleeve upon the outside against any side strain which comes upon the inside of the sleeve in the Merrick wrench

61 and in the Coes original patent wrench. This is an essential and important difference when the sleeve is made of wood; but if the sleeve were made of iron it would be of no importance that I can see, because that if the sleeve were made of iron it might

as well be supported directly upon the bar as indirectly upon it in the same neighborhood, just as is done in the Coes original patent wrench and the Coes wrench with the iron sleeve inquired of.

In the Dixie wrench the wooden handle is indirectly connected with the bar of the wrench by means of a flanch upon a nut screwed upon that bar, but if the handle were made of iron this would be of no importance. In the Taft patent wrench the sleeve is indirectly connected with the bar by means of a flanch upon the step plate, and this is important so long as the sleeve is made of wood, but it would have no importance if the sleeve were made of iron, so far as I can see, and the same remarks apply to the riveted wrench and bolted wrench.

Cross-int. 34. Was the iron-handle Coes wrench made as it is at your own suggestion?

Ans. Yes.

Cross-int. 35. The iron handle of that wrench contains an interior chamber which is not filled by the bar or lever of the wrench when the handle is in place upon the bar. Are the handles of any of the other wrench exhibits in this case constructed in like manner?

Ans. Not exactly, but substantially some of them are. I told the maker of this wrench to make the handle in this way in order that it might be lighter than it would be if it was not chambered out; but this chambering out has nothing to do with the operation of the wrench or with the structure of the wrench, so far as concerned with its mode of operation.

The sleeve fits the bar of the wrench at each end, and that is enough, especially when the material is of iron, and one-third of the wood might be chambered out in this Coes original patent wrench without affecting its structure in any substantial manner for its purpose.

Cross-int. 36. Can an iron handle, like that shown in the "iron-handle Coes wrench," be made as cheap in practical manufacture as a wooden handle like that on the bolted wrench?

62 Ans. No.

Cross-int. 37. Would an iron handle like that of the iron-handle Coes wrench be as agreeable to the feeling in the hand of a user in a frosty atmosphere as a wooden handle, like that on the bolted wrench?

Ans. No; especially when handled without mittens.

Cross-int. 38. Does the nut under the step in the wrench described in complainant's reissue perform the office of relieving the handle from end thrust well and thoroughly?

Ans. Yes.

Cross-int. 39. Did you ever see or know of a wrench in the market made with three rosettes, like those in Defendants' Exhibit "Taft Patent Wrench?"

Ans. Not that I now recollect of. I have never dealt in wrenches any further than I have purchased for my own use, and I always purchased the Coes wrench, original manufacture; that was good enough for me.

Cross-int. 40. Do you mean to be understood that the various exhibits, wrenches and wrench patents, which you have referred to in you examination so far illustrate the whole state of the art in the making of wrenches with adjustable jaws down to the time of the issue of Jordan & Smith's original patent already in evideuce?

Ans. No; I don't mean to be understood as saying anything different from what I have said. I haven't said that that I know of.

HERVEY WATERS.

Attest: CHAS. H. SWAN,
*Special Examiner.*

63 *Evidence for Complainant in Reply, Taken Pursuant to the Sixty-seventh Rule of the Supreme Court of the United States, in Equity, as Amended, Before me, William H. Myer, Special Examiner.*

NEW YORK CITY, *July* 16, 1879.

Present: W. E. Simonds, Esq., of counsel for complainant; G. L. Roberts, Esq., of counsel for defendants.

Complainant's counsel offers in evidence a certified copy of the letters patent granted to Loring Coes for improvement in the method of constructing screw wrenches, dated April 16, 1841, and numbered 2054. The same is marked "Complainant's Exhibit Coes 1841 Patent."

(Counsel for defendants objects to the introduction in evidence of the said copy and to the marking of the same as an exhibit in this case on the ground that the same patent has been correctly exemplified by the Defendants' Exhibit "Coes' Original Patent," already in evidence, and that this copy offered in evidence by complainant's counsel is not strictly accurate in all respects, especially in the delineations and representations of the drawings attached thereto.)

Complainant's counsel offers in evidence a wrench having a part of the bar or step slabbed off or cut away. The same is marked "Coes' Wrench, Original Manufacture, Unused." Counsel explains that he does not intend to be understood that this wrench was made by Mr. Coes, but that it is offered as an illustrative exhibit.

(Counsel for defendants objects to the introduction of the said wrench as an exhibit and to the designation of the same as specified on the ground that it is unaccompanied by proof as to its substantial accuracy as an illustration of what counsel for complainant assumes it to represent.

Complainant's counsel replies that the exhibit last referred to is offered in evidence for identification hereafter.)

64 Complainant's counsel offers in evidence (to be identified hereafter) a wrench, to be marked "Complainant's Exhibit Coes' 1841 Fillet Wrench."

(Counsel for defendants objects to the introduction in evidence of the last-named wrench and to its designation as specified in the absence of any proof as to the same, and further as inadmissible, irrelevant, and incompetent at this stage of the cause.)

Complainant's counsel offers in evidence a certified copy of the

reissued letters patent granted to Loring Coes for improvement in screw wrenches, dated June 26, 1849, numbered 139, and the same is marked "Complainant's Exhibit Coes' 1849 Reissue."

(Counsel for defendants objects to the introduction in evidence of the last-named copy as immaterial and inadmissible at this stage of the cause, and further as not entirely accurate in the delineations and representations of the drawings attached thereto.)

Complainant's counsel offers in evidence a certified copy from the files of the Patent Office of the file wrapper, contents, and drawing in the matter of the reissue letters patent granted Loring Coes June 26, 1849, No. 139, for improvement in screw wrenches, and the same is marked "Complainant's Exhibit Coes' 1849 Reissue Application."

(Counsel for defendants objects to the introduction in evidence of the last-named copy as immaterial, inadmissible, and incompetent, and further as not entirely accurate in the delineations and representations of the drawings attached thereto.)

Complainant's counsel offers in evidence a certified copy of letters patent granted to George C. Taft, assignor to Henry W. Mason, for improved screw wrench, June 16, 1857, numbered 17609, and the same is marked "Complainant's Exhibit Taft's 1857 Patent."

(Counsel for defendants objects to the introduction in evidence of the last-named copy as immaterial and inadmissible at this stage of the cause.)

Complainant's counsel offers in evidence a wrench (to be identified hereafter), and the same is marked "Complainant's Exhibit Taft's 1857 Wrench."

(Counsel for defendants makes the same objection to the
65 introduction in evidence of the wrench last named as to copy marked "Complainant's Exhibit Taft's 1859 Patent.")

Complainant's counsel offers in evidence a certified copy of the letters patent granted to George C. Taft May 25, 1858, numbered 20379, for improved wrench, and the same is marked "Complainant's Exhibit Taft's 1858 Patent."

(Counsel for defendants objects to the introduction in evidence of the last-named copy as immaterial and inadmissible at this stage of the cause.)

Complainant's counsel offers in evidence (to be identified hereafter) a wrench, and the same is marked "Taft's 1858 Wrench."

(Counsel for defendants makes the same objection to the introduction in evidence of the wrench last named as to the copy marked "Complainant's Exhibit Taft's 1858 Patent.")

Complainant's counsel offers in evidence a certified copy of letters patent granted to Francis D. Hayward Aug. 17, 1858, and numbered 21196, for improved wrench, and the same is marked "Complainant's Exhibit Hayward's 1858 Patent."

(Counsel for defendants objects to the introduction in evidence of the last-named copy as immaterial and inadmissible at this stage of the cause.)

Complainant's counsel offers in evidence a certified copy of letters patent granted to George C. Taft April 26, 1859, No. 23798, for im-

proved wrench, and the same is marked "Complainant's Exhibit Taft's 1859 Patent."

(Counsel for defendants objects to the introduction in evidence of the last-named copy as immaterial and inadmissible at this stag of the cause.)

Complainant's counsel offers in evidence (to be identified hereafter) a wrench, and the same is marked "Complainant's Exhibit Taft's 1859 Wrench."

(Counsel for defendants makes the same objection to the introduction in evidence of the wrench last named as to the copy marked "Complainant's Exhibit Taft's 1859 Patent.")

Complainant's counsel offers in evidence a certified copy of the file wrapper, contents, and drawing in the matter of the letters patent granted to George C. Taft, assignor to Thomas H.
66 Dodge, Nov. 10, 1863, No. 40590, for improvement in wrenches, and the same is marked "Complainant's Exhibit Application for Taft's 1863 Patent."

(Counsel for defendants objects to the introduction in evidence of the last-named copy as inadmissible and as incompetent.)

Complainant's counsel offers in evidence (to be identified hereafter) a wrench, and the same is marked "Complainant's Exhibit Comp's Pat'd Wrench.

Complainant's counsel offers in evidence a certified copy of the reissue letters patent granted Loring Coes, assignee by mesne assignments of George C. Taft, June 1, 1869, numbered 3483, for improvement in wrench, and the same is marked "Complainant's Exhibit Taft's 1869 Reissue Patent."

Complainant's counsel offers in evidence a certified copy of the file wrapper, contents, and drawing in the matter of the reissue letters patent granted Loring Coes, assignee by mesne assignments of George C. Taft, June 1, 1869, No. 3483, for improvement in wrenches, and the same is marked "Complainant's Exhibit Application for Taft's 1869 Reissue Patent."

(Counsel for defendants objects to the introduction in evidence of the last-named copy as immaterial, inadmissible, and incompetent.)

Complainant's counsel offers in evidence a certified copy of the file wrapper, contents, and drawing in the matter of the reissue letters patent granted The Collins Company, assignee of L. Jordan and Leander E. Smith, dated Feb. 25, 1873, No. 5294, for improvement in wrenches, and the same is marked "Complainant's Exhibit Complainant's Reissue Application."

(Counsel for defendants objects to the introduction in evidence of the last-named copy as immaterial, inadmissible, and incompetent.)

Complainant's counsel offers in evidence a certified copy of the provisional specification filed Dec. 31, 1860, No. 3195, in the matter of the application of W. Eades for English letters patent for screw wrench, and the same is marked "Complainant's Exhibit Eades' Provisional English Patent;" also a certified copy of the file wrapper, contents, and drawing in the matter of the application of J. E. Atwood for patent on wrench, filed Nov. 3, 1852, and the same is marked "Complainant's Exhibit Atwood's Rejected Application;"

67 also a certified copy of the file wrapper, contents, and drawing in the matter of the application of Nathan Whipple for patent on wrench, filed May 6, 1854, and the same is marked "Complainant's Exhibit Whipple's Rejected Application;" also a certified copy of the patent for wrench granted to Henry I. Behrens, assignor to C. S. Pomeroy, May 24, 1859, No. 24175, and the same is marked "Complainant's Exhibit Behren's Patent;" also a certified copy of the patent for wrench granted to A. Y. McDonald April 28, 1863, No. 38316, and the same is marked "Complainant's Exhibit McDonald's Patent;" also a certified copy of the patent for wrench granted to Robert S. Stenton July 24, 1866, No. 56628, and the same is marked "Complainant's Exhibit Stenton's Patent."

(Counsel for defendants objects to the introduction in evidence of the six last-named copies and each of them as immaterial, inadmissible, and incompetent."

Complainant's counsel offers in evidence an official statement of the acting Commissioner of Patents, under the seal of the Patent Office, and the same is marked "Complainant's Exhibit Commissioner's Statement Concerning Coes' 1841 Model."

Complainant's counsel offers in evidence a certified copy from the records of the Patent Office of a special order thereof concerning rejected and abandoned applications, and the same is marked "Complainant's Exhibit Patent Office Order Concerning Rejected Applications."

(Counsel for defendants objects to the introduction in evidence of the last-named copy as immaterial and irrelevant.)

Attest: WILLIAM H. MYER,
*Special Examiner.*

*Deposition of James Shepard.*

NEW YORK, *July* 16, 1879.

Direct examination by W. E. SIMONDS, Esq., of counsel for complainant:

Int. 0. Are you the same James Shepard who has already testified in this case?

Ans. I am.

68 Int. 1. I call your attention to the drawing in Defendants' Exhibit Coes' Original Patent, to the drawing in Complainant's Exhibit Coes' 1841 Patent, and to the following extracts from the specification in both of the exhibits just named, to wit: "The screw F has a milled nut, G, on or near its lower end, which, when the screw is placed in position, passes into a small notch, H, represented by the dotted lines formed or cut in the side of the shank."

In the claim, "the said adjusting screw to be suitably supported and to have a turning or milled nut placed thereon, a portion of whose edge or periphery shall pass into a notch or other similar contrivance formed in or upon the side of the shank of the wrench, so that the said adjusting screw may be always kept in the same

position, and when revolved cause the lower jaw to slide on the shank."

I call your attention also to the following extracts from the specification in Complainant's Exhibit Coes' 1849 Reissue:

"And my invention also consists in retaining the required position of the rosette, or its equivalent, by which its required motion is given to the sliding jaw by having its periphery work in a notch or recess in the bar of the permanent jaw and handle, or *vice versa*.

"At the rear end the screw is provided with a head or rosette (G), the periphery of which turns in a notch or recess (H) made in the edge of the bar, as shown by dotted lines, by which the position of the said rosette is retained relatively to the handle."

I also call your attention to the following extracts from the specification in Complainant's Exhibit Taft's 1858 Patent:

"Nor do I claim a wrench having its sliding jaw operated by a single male screw whose milled head enters a recess or notch made in the shank, and has a pivot extending from it and working in a step made in a projection from the handle, such being the construction of the wrench of Loring Coes as patented April 16, 1841."

I also call your attention to the following extract from the letter of the Commissioner of Patents to the applicant for patent, dated April 13, 1863, contained in Complainant's Exhibit Application for Taft's 1863 Patent:

"Great importance is also attached to the circumstance that, by virtue of the flanges on your rosette and the corresponding
69 notches in the shank, the whole thrust of the jaw is communicated directly to the shank, and consequently that the ferrule upon the end of the handle is relieved entirely from any such strain. This, though not specially adverted to, is equally the function of the rosette and notch in Coes' wrench. Both the model and the drawing in the latter case show that the notch in the shank is not cut down flush with the end of the ferrule, but sufficiently far in front of it to prevent the possibility of contact of the rosette with the ferrule."

I also call your attention to the following extract from the applicant's letter to the Commissioner of Patents, dated May 20, 1869, contained in Complainant's Exhibit Application for Taft's Reissue 1869 Patent:

"A simple traverse slot or notch in the shank for the reception of the rosette is not claimed *per se*, and hence the citing of the original Coes wrench as an answer to the application for reissue is giving an insufficient reason for the action of the office in not granting the reissue as prayed. It is true that the original Coes wrench shows a rosette fitted in a slot or notch cut in the shank."

Now, is or is not Defendants' Exhibit Coes' Original Patent Wrench made according to either of these drawings and citations by me?

(Objected to by defendants' counsel as inadmissible and incompetent—

1. Because the citation made from the specification of Coes' original patent of April 16, 1841, is not fully descriptive of the structure

delineated in the drawings, nor of those parts thereof specially referred to in that citation.

2. Because the drawing of Complainant's Exhibit Coes' 1841 Patent is not an entirely accurate copy of that belonging to the said patent.

3. Because the remaining citations contained in the interrogatory and the exhibits from which they are taken can have no force or effect in law to interpret the specification of the said Coes original patent, nor to define the character of the structure described therein.)

Ans. The Exhibit Coes' Original Patent Wrench is not made in accordance with the drawings of Defendants' Exhibit Coes' Original Patent in the fact of not having the head of the milled nut G resting in a notch in the side of the bar and at a point above
70 and isolated from the step plate I, as illustrated in the drawings. On the contrary, in the Exhibit Coes' Wrench the knurled head of the screw, which head is called a nut in the patent and is lettered G in the drawing, bears with its flat side directly against the step plate and without any intervening shoulder, such as is formed by the notch on the side of the bar as represented in the drawing, but the side of the bar is open on its end, and when the step plate is removed furnishes no obstruction to the longitudinal movement of the screw in a direction towards the handle. In the drawing, however, the shoulder of the notch on the side towards the handle would, if embodied in a wrench, furnish an obstruction to such a movement of the screw.

The step plate I in the drawing is represented as projecting upon two opposite sides of the ferrule. In the Exhibit Coes' Original Patent Wrench the step is made proportionately smaller, and instead of projecting beyond the ferrule on the side opposite the screw it is substantially flush therewith. Furthermore, in the wrench exhibit the shank inside the handle is of substantially uniform diameter from its outer end to a point inside of the step plate. No such construction is represented in the drawing. There are some faint lines in the drawing which indicate that the bar A extends of a uniform size to a point nearly through the step plate I. The wrench exhibit, in order to conform to the drawing, should be made in the same way, but it is not, as I have already shown. There are some other minor differences, which are of no particular importance. The same facts exist in reference to the drawing of Complainant's Exhibit Coes' 1841 Patent, with the exception that in this drawing the step plate and ferrule are substantially flush with each other on the side opposite the screw, but this drawing shows a step plate which is larger in proportion to the bar A than is the step plate in the Exhibit Coes' Original Patent Wrench. This wrench exhibit does not conform to the language quoted from Coes' 1841 patent, for the reason, as I have before stated, of the knurled head or nut G not resting in the notch in the side of the shank as represented by dotted lines, and, by reason of not being so constructed, the adjusting screw is not always kept in the same position, and when revolved the lower jaw is not caused to slide on the shank by

71 means of the edge or periphery of the milled nut passing into a notch upon the side of the shank, as described in the language quoted.

The Exhibit Coes' Original Patent Wrench does not conform to the language quoted from Complainant's Exhibit Coes' 1849 Reissue for the reason that the knurled head of the screw or rosette does not have its periphery in a notch in the bar, or *vice versa*, in such manner as to be retained in its required position by means of shoulders which form the respective sides of the notch; neither is the rosette, in the wrench exhibit, retained in position relatively to the handle by means of a notch in the bar; on the contrary, it is retained in position relatively to the handle by means of one side of the milled or knurled head bearing directly against one side of the step plate.

The Exhibit Coes' Original Patent Wrench does not conform to the language quoted from Complainant's Exhibit Taft's 1858 Patent for the reason just before stated, that the sliding jaw is not operated by means of the milled head of the screw entering a notch in the shank.

The Exhibit Coes' Original Patent Wrench does not conform to the language quoted from Complainant's Exhibit Application for Taft's 1863 Patent for the reason before specified, and that it does not have a notch cut in its shank, and consequently does not have a notch located sufficiently far in front of the end of the step plate (which is what I understand to be meant by "the end of the ferrule") as to prevent the possibility of contact of the rosette with the step plate.

The Exhibit Coes' Original Patent Wrench does not conform to the language quoted from Complainant's Exhibit Application for Taft's 1869 Reissued Patent for the same reason before given, that the rosette is not fitted in a slot or notch cut in the shank. If the knurled head of Coes' original patent wrench is said to be in a notch or recess at all, then the upper side of the step plate forms one wall of that recess and is a necessary part thereof in controlling the position of the screw; consequently the recess is not cut or formed in the side of the shank or bar, but in the combined bar and step plate.

For these reasons I am of the opinion that the Exhibit
72 Coes' Original Patent Wrench is not made in conformity with either of the drawings or extracts inquired of.

(Adjourned to July 17, 1879, at 10 o'clock a. m.)

NEW YORK CITY, *July* 17, 1879.

Int. 2. I call your attention to the following extract from Complainant's Exhibit Coes' 1849 Reissue:

"And my invention also consists in retaining the required position of the rosette or its equivalent, by which the required motion is given to the sliding jaw by having its periphery work in a notch or recess in the bar of the permanent jaw and handle, or *vice versa*.

Also to the following extract from the original specification contained in Complainant's Exhibit Coes' 1849 Reissue Applicatoin:

"And it will also be obvious that for retaining the rosette or head in the same position relatively to the handle, instead of the notch or recess in the bar, this may be inverted by having a groove in the periphery thereof to receive a projecting fillet from the edge of the bar, the one being a well-known equivalent of the other."

I also call your attention to the following extract from the Commissioner's letter to the applicant, dated April 13, 1863, contained in Complainant's Exhibit Application for Taft's 1863 Patent:

"Both the model and the drawing in the latter case show that the notch in the shank is not cut down flush with the end of the ferrule, but sufficiently far in front of it to prevent the possibility of contact of the rosette with the ferrule, and that such purpose was probably intended is further evidenced by some remarks of his in his specification as first presented, but which do not appear in the patent, to the effect that for retaining the rosette in position a fillet may be projected from the surface of the shank and fitted to work in a corresponding groove in the periphery of the rosette."

Now, is or is not Complainant's Exhibit Coes' 1841 Fillet Wrench constructed in substantial accord with these quotations and each of them?

(Objected to by defendants' counsel as immaterial, inadmissible, and incompetent.)

Ans. It is.

Int. 3. I call your attention to the affidavits of Clarendon,
73 Wheelock, and others (eleven affiants in all), contained in Complainant's Exhibit Application for Taft's 1863 Patent.

Does or does not that affidavit describe such a wrench as Complainant's Exhibit Coes' Old Wrench was when it was new? Does or does not that affidavit describe such a wrench as Defendants' Exhibit Coes' Wrench, Original Manufacture, was when it was new? Does or does not that affidavit describe such a wrench as Complainant's Exhibit Coes' Wrench, Original Manufacture, Unused (with the exception of the slabbing off of the bar and step plate) is?

(Objected to by defendants' counsel as immaterial, inadmissible, and incompetent.)

Ans. The language in that affidavit does describe a wrench such as Complainant's Exhibit Coes' Old Wrench was when new. It also describes such a wrench as Defendants' Exhibit Coes' Wrench, Original Manufacture, was when new; also a wrench like Complainant's Exhibit Coes' Wrench, Original Manufacture, Unused, with the exception of the slabbing off in order to better show the construction.

Int. 4. Is or is not Complainant's Exhibit Taft's 1857 Wrench made in substantial conformity to the wrench described and shown in Taft's 1857 patent?

(Objected to as immaterial and inadmissible at this stage of the cause.)

Ans. It is.

Int. 5. Is or is not Complainant's Exhibit Taft's 1858 Wrench

made in substantial conformity with the wrench described in Complainant's Exhibit Taft's 1858 Patent?

(Same objection.)

Ans. It is.

Int. 6. Is or is not Complainant's Exhibit Taft's 1858 Wrench constructed in substantial conformity with the wrench described and shown in Complainant's Exhibit Taft's 1859 Patent?

(Same objection.)

Ans. It is.

Int. 7. Is or is not Defendants' Exhibit Taft's Patent Wrench made in accordance with the wrench described and shown in Defendants' Exhibit Taft's Patent of 1863?

74 Ans. Defendants' Exhibit Taft's Patent Wrench contains the several parts shown and described in the Taft patent of 1863, but they are not assembled in such a manner as to operate as described in the patent for the following reasons: In the Defendants' Exhibit Taft's Patent Wrench the end of the screw bears directly on the step plate or end of the ferrule, as it is called in the patent, while the projections *e* of the rosette do not bear at all upon the sides of the grooves in the bar; consequently the entire endwise pressure on the screw is transmitted directly to the step plate, instead of upon the bar, at a point above the plate.

The patent shows and describes the projections of the screw head as resting directly against the side walls of the grooves in the bar, and at a point sufficiently above the step plate or ferrule as to relieve "the ferrule from all strain while retaining the rosette in the same relative position as respects the handle of the wrench."

There is no such operation of the parts as they are now assembled in Defendants' Exhibit Taft's Patent Wrench.

Int. 8. Is or is not Complainant's Exhibit Complainant's Patented Wrench made in conformity with the description and drawings contained in Complainant's Exhibits Complainant's Original Patent and Complainant's Reissued Patent?

Ans. It is.

Int. 9. Defendants' expert, in his answer to the fifth interrogatory, says that the difference between the "Coes wrench" (by which I understand him to mean either the wrench shown in Coes' patent of 1841 or the Coes wrench, original manufacture) and the "Taft wrench" (by which I understand him to mean the wrench shown in Taft's patent of 1863) "constitutes a somewhat broad and essential difference." Do you or do you not find any such broad and essential difference between the wrenches so compared by him?

Ans. I do not. In the Coes wrench, either in the form patented or as manufactured, the end thrust of the screw is taken upon the bar of the wrench by means of the nut or rosette bearing directly upon the bar. The same is also true of the Taft wrench as described in the Taft patent of 1863, so that I fail to find any essential difference. The only difference consists in a duplication of the rosette and grooves in the bar so as to more effectually perform the same function.

75 Int. 10. In that same fifth answer defendants' expert says: "The wrench described in Taft's patent * * * is specifically different from the Coes wrench in the fact that the end thrust of the screw is taken upon the bar of the wrench by means of the nuts or rosettes upon the screw bearing directly upon the bar instead of bearing upon the step plate of the wrench." Is or is not that described mode of operation found in any of, and, if any, which of, the following wrenches: first, the wrench described and shown in Defendants' Exhibit Coes' Original Patent; second, Complainant's Exhibit Coes' Wrench, Original Manufacture, Unused; third, Complainant's Exhibit Coes' 1841 Fillet Wrench; fourth, Complainant's Exhibit Taft's 1858 Wrench; and, fifth, Complainant's Exhibit Taft's 1859 Wrench?

(Defendants' counsel objects to so much of the interrogatory as refers to the four wrenches last named as immaterial, inadmissible, and incompetent.)

Ans. That described mode of operation is found in the wrench shown and described in Defendants' Exhibit Coes' Original Patent. It is substantially found in Complainant's Exhibit Coes' Wrench, Original Manufacture, Unused. In this wrench, however, a part of the strain or end thrust of the screw comes upon the step plate and part upon the rosette, bearing directly upon the bar. The mode of operation quoted in the question is found embodied in each of the three other wrench exhibits named in said question.

Int. 11. In his answer to the seventh interrogatory, defendants' expert says that the wrench described in complainant's original and reissued patents is a Coes "wrench," and that it "is substantially a Taft-Coes wrench." In Defendants' Exhibit Taft's Patent of 1863 there occur the following passages:

"The advantage of having a rosette of this form is that it sustains the pressure which would otherwise come upon the ferrule E, which pressure is often so great as to break it off or displace it, thus rendering the whole wrench useless. I am aware that the rosette of screw wrenches has heretofore been constructed with a screw thread." Now, in your opinion, is or is not the wrench described in complainant's original and reissued patent a "Coes wrench" or "substantially a Taft-Coes wrench?"

Ans. It is not. The Coes wrench, as patented and as manu-
76 factured, had a notch in the bar which received the head of the screw or rosette in such manner that the walls of the notch would obstruct the screw from moving longitudinally towards the handle, and so as to bear the entire end thrust of the screw in case the step plate should be let down a little away from the face of the rosette. Such is not true of the wrench shown and described in complainant's original and reissued letters patent; on the contrary, the entire end thrust of the screw bears directly upon the step plate. If the step plate is let down a little the rosette will follow, because the step plate is the only device which furnishes an obstruction to the end thrust of the screw. For the same reason the wrench described in complainant's original and reissued letters patent is not a Taft-Coes wrench, as the language quoted in the question from

the Taft patent shows conclusively that no device can be a Taft wrench in which the end thrust of the screw bears upon the step plate. To treat the complainant's patented wrench as a Taft wrench the thread on the nut back of the step plate must be treated as the equivalent of the projections on the head of the screw or rosette in the Taft wrench, and the spiral threads on the bar below the step plate as the equivalent of the grooves in the bar above the step plate in the Taft wrench; but even when so construed it could not be a Taft wrench, because to receive the end thrust of the screw upon spiral ridges and grooves is disclaimed in the Taft patent.

Int. 12. In his seventh answer (near the top of page 40 of the printed record) defendants' expert says that he understands the language he has just quoted from complainant's reissued patent to refer to the "Coes proper" wrench. In view of the state of the art as already developed in this case, does that language so quoted refer to the "Coes proper" wrench?

Ans. It does not, because the language quoted does not properly describe the Coes wrench or the operation of it, as shown in Coes' original patent, in which the end thrust or back pressure was transmitted directly to the bar at a point above the step plate, so that none of it was thrown on the wooden handle. The language is only measurably true with reference to wrenches like Defendants' Exhibit Coes' Wrench, Original Manufacture, because in that wrench the greater part of the strain was received by the wrench
77 bar instead of the step and handle, and the notch in the bar was the principal factor in the prevention of the end thrust, because that part was rigid and immovable, and it was only when the notch and edge of the head became worn that any substantial part of the end thrust or back pressure was thrown upon the wooden handle, and even when thus worn the handle received only a part of the back pressure.

The language quoted and before referred to does properly describe the wrench and its operations made like Complainant's Exhibit Taft's 1857 Wrench, in which the entire end thrust or back pressure was thrown upon the wooden handle through the step plate, and that when the wrench was new the same as at any other time.

Int. 13. In his ninth answer defendants' expert says that he understands the language which is quoted in the question from complainant's reissued patent to refer to the mode of construction represented by Defendants' Exhibit Riveted Wrench. What do you understand that language to refer to? And do you or do you not find in that language any description of a wrench having the construction of parts, or the combination of parts, or the operation of parts illustrated in Defendants' Exhibit Riveted Wrench?

Ans. I understand the language quoted to refer to one step or part of a process as theretofore practiced in the manufacture of wrenches, and not to any particular construction of a complete wrench. The language shows that it is old to rivet the step and wrench bar together when considered by themselves; also by welding said parts together; but how they were formed, through what parts the rivet extended, or any other details thereof are not described, and what

particular devices they referred to is not apparent and cannot be made known unless the history of the case should in some way disclose it. I do not find in the language quoted any description of a wrench like Defendants' Exhibit Riveted Wrench, nor any reference to the combination of parts constructed and combined as in said exhibit.

Int. 14. Does or does not a wrench having a step riveted to the bar come up to or have the mechanical characteristics of a wrench having a step plate supported by a nut upon the bar, as in complainant's patented wrench?

78 Ans. It does not. First, because the step plate cannot be readily removed and replaced for the purpose of repairing any of the parts or substituting a new part for one removed; second, it does not support the step plate so firmly because it is supported only by a rivet on two sides of the bar, whereas in the complainant's wrench the complete under side of the step is supported upon all sides of the bar; third, under great pressure, if the step or bar did not bend or break, they would act like shears and cut off both ends of the rivet. There is no such action in the complainant's wrench. The construction of the riveted wrench is much more difficult and requires great care in order to bring the step plate firmly up against the shoulder on the bar, whereas in the complainant's wrench the nut will readily bring the step into place. Fourth, the step plate is greatly weakened by the rivet hole, and it is not strengthened by the rivet, so that the step plate would be liable to break off under the great pressure often brought to bear upon the step plate when in use, whereas in the complainant's wrench the step plate is not thus weakened, but is backed up by the nut so as to be strengthened; fifth, the rivet hole materially weakens the wrench bar at a vital point, whereas in the complainant's wrench the bar is not cut or weakened at all at that point, and the bar for some distance below the step is greatly strengthened and supported by means of the surrounding nut; sixth, in case it is desirable for any reason to substitute a new step plate, it would be very difficult to drill one so as to have the rivet holes therein properly coincide with the rivet hole in the wrench bar, and if they did not coincide they would have to be filed or reamed out larger, which would still further weaken the parts. No such difficulty exists when the step is secured by means of the nut, as in the complainant's wrench.

Int. 15. Defendants' expert in his tenth answer (near the bottom of page 42 of the printed record), speaking of Defendants' Exhibit Iron-Handle Coes Wrench, says it is "made strictly in accordance with the wrench described in the original Coes patent, both in construction and mode of operation." Is it so made?

Ans. It is not so made, either in its construction or mode of operation, because it does not have the notch in the wrench bar to receive

79 the end thrust of the screw and govern the screw in position, which is a difference both in construction and mode of operation. The construction is also different, from the fact that the shank which passes through the nut and handle is made of a

larger diameter at its lower end than it is for the greater portion of its length.

It also differs from the wrench described in the patent by having the portion of the shank immediately below the step plate threaded instead of plain. It also differs from the fact that its handle is chambered out on the inside, which is a construction neither shown nor described in the patent.

It also differs in proportion of the relative length of the handle and nut; also in the fact that there is no ferrule on the upper edge of the handle, and in the fact stated by defendants' expert, that the handle is made of iron instead of wood.

Int. 16. How does an iron-handle wrench, like this one we are now discussing, compare in the points of practicability and usefulness with a wooden-handle wrench like complainant's patented wrench?

Ans. Not at all favorably. The iron handle is much heavier than the wooden one. In use it will wear very smooth and be much more slippery, disagreeable, and treacherous to handle in any weather, and more particularly disagreeable in cold weather. It is much more expensive than the wooden handle. It is stronger than the wooden handle, but the complainant's wrench is so constructed that the wooden handle is relieved from all undue strain, so that it is nothing but wastefulness to be at any expense to make it stronger than it is. If the nut on the end of the shank in complainant's patented wrench should become loosened, thereby let the handle down a little, it would not in any manner loosen or change the position of the step plate, whereas in the iron-handle wrench if the nut and handle should become loosened, as they are very liable to in use, then the step plate would become loosened and fall back or downward out of place, so as to completely disorganize the wrench.

Int. 17. In his fifteenth answer defendants' expert, speaking of the wrench described in complainant's reissued patent, says: "These specific means consist of the nut with the flanch attached to it, in combination with the bar or lever of the wrench, and with the step and the sleeve or handle which goes within the flanch upon the nut, by means of which flanch and nut the handle is kept firm upon the bar of the wrench at its upper end, the inside of the flanch supporting the handle upon its outside and preventing it from splitting or being thrown sideways in the use of the wrench." Now, with reference to the wrench Complainant's Exhibit Defendants' Manufacture, first, Is or is not the annular flanch which depends from the step plate kept firm in its position by the nut which presses up against the step plate? Second, Does or does not the inside of that flanch support the handle upon its outside and prevent it from splitting or being thrown sideways in the use of the wrench?

(Objected to by defendants' counsel as leading.)

Ans. In Complainant's Exhibit Defendants' Manufacture the annular flanch which depends from the step plate, and the inside of which supports the outside of the handle, is held in its position and is secured rigidly to the wrench bar by means of the nut which

presses up against the step plate. The inside of the annular flanch does support the handle upon its outside and prevents it from splitting or being thrown sidewise in the use of the wrench.

Int. 18. Is there or not any such mode of operation in the Coes wrench, either as shown in Coes' original patent of 1841 or as shown in Coes' wrench, original manufacture?

Ans. There is not. In the Coes original patent of 1841 the ferrule is not dependent from and a part of the step plate, and is not in any manner supported on the shank of the wrench, so that the handle supports the flanch and keeps it in its position on the wrench bar instead of the flanch supporting a handle thereon. In Coes' wrench, original manufacture, the flanch upon the step plate is supported by the handle and held in its place by means of the handle instead of the flanch holding the handle in place.

(Adjourned to July 18, 1879.)

NEW YORK CITY, *July* 18, 1879.

Int. 19. In his eleventh answer (near the foot of page 48 of the printed record) defendants' expert says of Defendants' Exhibit Coes' Original Patent Wrench that "the bar in the Coes wrench acts in combination with the step combined with the wrench bar, and supported by the nut F or its equivalent, at the place where the
81 step is connected with the bar, in such manner that the step can be removed from the bar without cutting or abrasion of parts." Do you find in Defendants' Exhibit Coes' Original Patent Wrench "the step combined with the wrench bar, and supported by the nut F or its equivalent, at the place where the step is connected with the bar?"

Ans. I do not. I find in Exhibit Coes' Original Patent Wrench the combination of the step plate with the wrench bar, but I do not find the supporting nut or its equivalent at the place where the step is connected with the bar; on the contrary, the step plate is supported by the ferrule and wooden handle at that point.

Int. 20. Does the wrench described in Taft's patent of 1863 possess the mechanical characteristics of complainant's patented wrench?

Ans. It does not. First, because the entire end thrust is received near the peripheries of the rosettes on the screw, whereby a much greater friction is caused than there is where the end thrust comes upon the screw or rosette at a point nearer its axis, as in the complainant's wrench, and this at all times, under all conditions. Second, in the Taft wrench, when an object is griped between its jaws with a light pressure, the friction is so great that it would be difficult to revolve the screw and rosettes with the fingers so as to make the jaws pinch tighter. Under the same conditions, the screw and rosette of complainant's patented wrench can be easily revolved by the fingers. Third, the slots in the wrench bar, in order to be of practical service, must be made of such a depth as to materially weaken the bar at a vital point. Fourth, as the rosette of the screw cannot be slipped endwise directly into place, but must be moved a little distance at right angles with its axis, an undesirable

looseness either in the fitting of the screw or the sliding jaw, or both, is necessitated in order to get the parts into place. This is not so in complainant's patented wrench, because the screw can be slipped endwise into place without any movement whatever transversely to its axis. Fifth, the end thrust of the screw in the Taft patented wrench is all brought to bear at a point quite remote from its axis and all on one side of its axis, so that under great pressure the tendency to throw the rosette out of the slot will be so great as
82 to be liable to bend the screw. This danger is increased by locating the bearing surfaces of the rosettes farther away from the lower end of the screw, so that the greater number of rosettes that are employed, the greater the danger of bending the screw. In the complainant's patented wrench there is no such tendency to bend the screw, because the end thrust is received by the end of the screw, and at a point on all sides of its axis. Sixth, the duplication of the rosettes necessarily occupies a much longer space on the screw than the single rosette, as in complainant's patented wrench, thereby materially reducing the opening capacity of the jaws or else necessitating a longer wrench bar or a shorter handle.

Int. 21. What will be the effect of a considerable length of use upon the shape of the rosettes in the Taft patent wrench, and what in complainant's patented wrench?

Ans. In the Taft patent wrench the rosettes will be battered up and enlarge their diameter so as to bear upon the bottom of the slots and create greater friction than before; they will also wear off so as to become beveled on their bearing sides, as is demonstrated by reference to Complainant's Exhibit Coes' Old Wrench, which has a single rosette bearing in a slot in like manner.

When these rosettes are so beveled off by wear the tendency to bend the screw is greatly increased. In the complainant's patented wrench the end of the rosette has such a broad bearing surface that it will not become thus battered, and in wearing off will wear on a much larger surface, so as not to bevel off its corners.

Int. 22. In his tenth answer (about the middle of page 45 of the printed record) defendants' expert says of the wrench described in complainant's reissued patent: "But this nut, for its purposes of holding the step in place, and the bolt" (by bolt meaning the rivet shown in Defendants' Exhibit Riveted Wrench), "for the same purposes, are well known substitutes for each other." Is that so?

Ans. It is not, because I know of no prior device in which a nut was used for the purpose of holding the step in place upon the bar of the wrench, and in the absence of any such prior use the rivet and the nut cannot be known substitutes in wrenches. Furthermore, a rivet and a nut are not known substitutes in any device that I know of, and I cannot think of any place where they
83 could be used as substitutes. A nut is a collar provided with internal threads to fasten it upon some object which it surrounds. A rivet never surrounds anything, but consists of a long body with a head on each end. A rivet and a bolt consisting of a long body with a head on one end and a nut on the other end can be used as substitutes or equivalents in some cases where re-

movability is not desired. A nut and a rivet are both of them fastening devices, but all fastening devices are not substitutes or equivalents, as, for instance, a thread and needle, and a door-lock, both of which are fastening devices.

(Complainant's counsel offers in evidence printed descriptions and drawings of wrenches, and the same is marked "Complainant's Illustrative Exhibit."

Counsel for defendants objects to the introduction in evidence of the printed descriptions and drawings last mentioned as immaterial, inadmissible, and incompetent.)

Cross-examination by GEORGE L. ROBERTS, Esq., of counsel for defendants:

Cross-int. 23. In Int. 1 certain quotations were made from Defendants' Exhibit Coes' Original Patent, the first of which ended abruptly. I continue the quotation from the specification of the same patent:

"The lower side of the nut G rests upon the top of a piece of metal, I, which clasps or is applied to and projects from the shank A, as seen in the drawing."

What specific peculiarity of construction do you understand to be described and referred to in the language just quoted?

Ans. Taken separately from the rest of the specification and considering that the words "as seen in the drawing" refer to the step plate and the shank instead of the nut G, then I should understand the language to mean that the lower side of the nut rested directly upon the top of the step plate.

Cross-int. 24. And understanding that to be the construction indicated by the language, "the lower side of the nut G rests upon the top of a piece of metal, I, which clasps or is applied to and projects from the shank A," the step plate would then receive the entire end thrust of the adjusting screw F, would it not?

84 Ans. Yes, for all any limitation applied by the language quoted.

Cross-int. 25. Now, considering the remainder of the sentence, "as seen in the drawing," in connection with the language last quoted, so as to include the entire quotation made in Int. 23, and assuming that the clause "as seen in the drawing" applies to the whole description, how do you understand the construction of the devices so described and referred to?

(Objected to as ambiguous and uncertain.)

Ans. By referring to the drawings I find that the step or piece of metal I and the nut G are so relatively located as to contradict the meaning implied by the first clause of the sentence quoted, when given an exact construction; wherefore I must either ignore the drawings altogether or seek for a different construction of the language. I am of the opinion that the words "rests upon the top" were merely intended to show that the nut rested just above the top

of the piece of metal I, and that said piece of metal does not receive the end thrust of the screw.

Cross-int. 26. The exact language of the description is that (the italics being mine) "*the lower side* of the nut G rests upon the top of a piece of metal, I," etc., and do you mean that you interpret this language to signify that the lower side of the nut G does not rest upon the top of the step plate I?

Ans. No. I interpret the drawings to mean "that the lower side of the nut G does not rest upon the top of the step plate I," and I interpret the language in such manner as not to be inconsistent with the drawing.

Cross-int. 27. Is it your custom, as a skilled mechanic or expert called upon to ascertain or define the mechanical construction of contrivances described in letters patent and illustrated by drawings attached to the specification, to interpret descriptive language of positive and definite meaning in such manner as to control inaccuracies or imperfections of delineation in the drawings, or do you treat the latter as conclusive, even at the expense of warping or stultifying positive descriptive language of the specification?

(Objected to as immaterial and argumentative.)

Ans. It is my custom to treat every individual case on its own merits and decide alone by the facts in each case, using my best judgment.

85 I will say in a general way that whenever I find in a specification a very brief description followed by a special reference to the drawings that the reference to the drawing means something, and in many cases the drawing describes the device better than the written description, and the special reference to the drawing is generally made in order to save writing a fuller description. When inconsistencies and direct contradictions occur they have to be harmonized according to one's best judgment.

Cross-int. 28. When, in your answer to Int. 9, you referred to the Coes wrench "in the form patented" by Loring Coes' patent of April 16, 1841, and when, in your answer to Int. 10, you again referred to the construction of the wrench described in that patent, and when you further referred to the construction of the same patented Coes wrench in your answer to Int. 11, and likewise in your answer to Int. 12, relating to the "Coes proper" wrench, and also when, in answer to Int. 15, you referred to the same patent in connection with Defendants' Exhibit Iron-Handle Coes Wrench, did you, in either of your answers specified, assume that, in the construction of the wrench described in Coes' original patent so referred to, "the lower side of the nut G rests upon the top of a piece of metal, I, which clasps or is applied to and projects from the shank A," or did you assume that in the construction of the wrench described in said patent the lower side of the nut G does not rest upon the top of the step plate I?

Ans. I understand that in the wrench described in Coes' patent of 1841, taking the complete drawings and specifications together, the lower side of the nut does not come in contact with the step plate. I so understood that patent when I answered each of the questions

inquired of, but in some of said answers that fact would be immaterial.

Cross-int. 29. In your answer to Int. 19, referring to the wrench described in Coes' original patent of 1841, you speak of it as having a flanch which you say the handle keeps in position. Did you there refer to the ferrule upon the handle; and, if so, why did you call it a flanch?

Ans. I there referred to the ferrule upon the handle. I had no particular reason for calling it a flanch except that it embraces
86 the end of the handle and occupies the same position as the flanch then under consideration. I have no preference for that word over the word "ferrule" in that connection.

Cross-int. 30. But as that ferrule is not integral with the step plate and does not form any part of it, is the term "flanch" properly descriptive of such ferrule?

Ans. Yes, so long as the ferrule is held firmly up against the step plate, but when detached therefrom it is not.

Cross-int. 31. So long as the ferrule is held firmly up against the step plate, so as to constitute it properly a flanch, as you understand it, by what is it so held firmly up against the step plate in the wrench under consideration, to wit, that described in Coes' original patent?

Ans. By means of the wooden handle on the wrench bar.

Cross-int. 32. And by what means is the wooden handle on the wrench bar enabled to so hold the ferrule firmly up against the step plate in that wrench?

Ans. The wooden handle in the patent is held in its position by means of a small nut on the outer end of the shank.

Cross-int. 33. Why do you say "small nut?"

(Objected to as immaterial.)

Ans. Because a small nut is shown in the drawing, and because only a small nut is necessary.

Cross-int. 34. In your answer to Int. 19, referring to Defendants' Exhibit Coes' Original Patent Wrench, you say that the step plate is supported by the ferrule and wooden handle at the place where the step is connected with the bar. Does the ferrule and wooden handle so support that step plate independently of any other means, or do they perform that function by virtue of the support furnished by the nut below the handle at the lower end of the wrench bar?

(Objected to as a misstatement of the answer in question and as ambiguous.)

Ans. In the Exhibit Coes' Original Patent Wrench the step plate is held in place by means of the wooden handle and ferrule, and that handle is supported by means of a large nut on the end of the shank of the wrench bar.

87 Direct examination resumed:

Int. 35. Whether the recess be a little higher or a little lower on the bar, is there or not any doubt that Defendants' Exhibit

Coes' Original Patent describes a recess for the reception of the rosette formed in the bar, which of itself controls the position (longitudinally upon the bar) of the adjusting screw?

(Objected to by defendants' counsel as leading, and also as incompetent, as calling for legal construction of the patent.)

Ans. There is not.

JAMES SHEPARD.

Attest: WILLIAM H. MYER,
*Special Examiner.*

*Evidence for Complainant in Reply, Taken Pursuant to the Sixty-seventh Rule of the Supreme Court of the United States, in Equity, as Amended, Before me, Edward B. Bennett, Special Examiner.*

HARTFORD, *July* 23, 1879.

Present: W. E. Simonds, Esq., of counsel for complainant; R. L. Roberts, Esq., of counsel for defendants.

*Deposition of Christopher M. Spencer.*

Direct examination by W. E. SIMONDS, Esq., of counsel for complainant:

Int. 1. What is your name, age, residence, and occupation?

Ans. Christopher M. Spencer; forty-six; Hartford; and manufacturer, connected with the Hartford Machine Screw Company as superintendent.

Int. 2. Are you the inventor of the Spencer rifle and of machinery used by the Hartford Machine Screw Company?

Ans. I am.

88 Int. 3. Are you a machinist by trade?

Ans. I am since I was fourteen years of age.

Int. 4. Have you in the course of your business of machinist and manufacturer been accustomed to use adjustable or monkey wrenches?

Ans. I have.

Int. 5. Suppose that in a wrench constructed in general like Complainant's Exhibit Complainant's Patented Wrench the step plate, instead of being supported by a nut on the bar, should be supported by a rivet passing through the step plate and bar, as in Defendants' Exhibit Riveted Wrench, would or would not a wrench so constructed in accordance with my supposition possess the mechanical characteristics of the wrench having the step plates supported by a nut on the bar?

Ans. It would not have the mechanical characteristics nor the equivalents.

Int. 6. Will you point out such differences as occur to you?

Ans. A rivet through the step plate necessarily weakens the step plate; also the bar. In repairing the step plate so constructed the difficulty of making the holes in the plate and bar to interchange

would necessitate enlarging the holes each time to make the pin or rivet fit properly, whereas in the wrench with step plate supported by a nut it may be removed and a new one replaced without any extra expense or trouble than removing the nut and plate. If I were to buy wrenches I should in all cases prefer the one with step plate supported by a nut.

Cross-examination by R. L. ROBERTS, Esq., of counsel for defendants:

Cross-int. 7. Will you please state what you understand to be the "mechanical characteristics" of the wrench Exhibit Complainant's Patented Wrench?

(Objected to as not being confined to the points inquired of in the direct examination.)

Ans. A step plate supported by a nut on the bar.

Cross-int. 8. What do you understand to be the object and purpose of that nut?

89 Ans. To furnish a strong support for the step plate and to relieve the strain on the wooden handle; also to facilitate repairs of the step plate and removal of the slide and screw.

Cross-int. 9. In a wrench constructed as supposed in the fifth direct question, with a pin or rivet through the step plate and bar, in your opinion would or would not the rivet support the step plate and relieve the strain on the wooden handle?

(Same objection as to last.)

Ans. It would, so long as the step plate lasted.

Cross-int. 10. In a wrench constructed like Defendants' Exhibit Bolted Wrench, having a pin or bolt similar to the one that passes through the step and bar in that exhibit, in your opinion would there be any substantial difficulty in removing the step for the purpose of repairing the wrench?

(Objected to as going outside of the record made in the direct examination.)

Ans. Not with the taper pin or bolt, but with a rivet it would necessitate it being chipped or filed away.

Cross-int. 11. What would you consider equivalents of a nut in the construction of machines or mechanical contrivances?

(Objection same as last.)

Ans. That depends to what purpose you apply it.

Cross-int. 12. For the purpose of holding parts of machinery or devices together, what would you consider to be the equivalent of a nut?

(Same objection.)

Ans. For some purposes, I should consider there was no equivalent—or rather for some kinds of machinery or devices.

Cross-int. 13. Can you name any instance where there might be an equivalent for a nut used? If so, please to do it.

(Objected to, that this line of examination is not confined to the line of direct examination of this witness. Further, that the question is one proper only for an expert witness, while this witness is introduced only as a mechanic accustomed to the use of wrenches. Further, that the question is in the nature of an examination in support of defendants' case, which defendants are not entitled to at this time and in this manner.)

90 Ans. I cannot. We avoid a pin or rivet wherever we can, in mechanics, as a weak support. They are liable to loosen and cut off and always a serious annoyance, in my experience; and I consider nothing an equivalent of a nut for longitudinal strain on a bar of iron, except a welded or solid head or collar. I have reference to anything detachable from the bar.

Cross-int. 14. Is a nut ever used for holding a pulley or gear against a shoulder on a shaft?

(Same objections as to last.)

Ans. Yes.

Cross-int. 15. Is a pin or key ever used for that purpose?

(Same objections, and further objection as ambiguous, in the absence of explanation of the manner of use of the key.)

Ans. Yes.

Cross-int. 16. In that instance should you consider the nut and the key equivalents of one another?

(Same objections, and further as immaterial to the issue.)

Ans. I should not.

Cross-int. 17. Did you ever use a wrench in which the step was held to the bar by a pin or rivet?

Ans. Don't think I ever did; if I have, it was riveted on so that I did not discover it.

CHRISTOPHER M. SPENCER.

Attest: EDWARD B. BENNETT,
*Special Examiner.*

*Deposition of William Mason.*

HARTFORD, CONN., *July* 23, 1879.

Direct examination by W. E. SIMONDS, Esq., of counsel for complainant:

Int. 1. What is your name, age, residence, and occupation?

Ans. William Mason; forty-two; Hartford; and am foreman at Colt's Arms Manufactory.

Int. 2. Are you an inventor of machinery used at Colt's Arms Manufactory?

Ans. To some extent I am.

91 Int. 3. Are you a machinist by trade?

Ans. I am.

Int. 4. Have you, in the course of your business, been accustomed to use adjustable or monkey wrenches?

Ans. I have.

Int. 5. Suppose that in a wrench constructed in general like Complainant's Exhibit Complainant's Patented Wrench the step plate, instead of being supported by a nut on the bar, should be supported by a rivet passing through the step plate and bar, as in Defendants' Exhibit Riveted Wrench, would or would not a wrench so constructed in accordance with my supposition possess the mechanical characteristics of the wrench having the step plate supported by a nut on the bar?

Ans. It would not.

Int. 6. Will you point out the differences which occur to you?

Ans. These wrenches in practical use are subjected to frequent and severe strains, by which the bar is sometimes bent or broken. The rivet for the purpose in question fatally weakens the bar; besides, when the bar is thus bent or other repairs are needed, if the nut is used to support the step plate it may be readily removed and repairs readily done, and the wrench more properly readjusted by screwing on the nut against the step plate to a point that may compensate for wear of the parts. If the rivet is used it must be drilled or chipped out and a new one substituted.

Int. 7. Would or would not the rivet so used weaken the step plate?

Ans. It would in Complainant's Exhibit Complainant's Patented Wrench.

Cross-examination by R. L. ROBERTS, Esq., of counsel for defendants:

Cross-int. 8. What do you understand to be the mechanical characteristics of a wrench like Complainant's Exhibit Complainant's Patented Wrench?

Ans. That the step plate is substantially secured in its position by a nut, with screw threads in its internal diameter fitting corresponding threads on the bar of the wrench between the step plate and handle of the wrench, thereby most substantially secur-

92 ing the step plate and admitting of a most convenient means of readjusting the same; all of which, with suitable proportioned screw threads, in accordance with the diameter of the bar, would not weaken the bar at this vital point.

Cross-int. 9. At what point on the bar of such a wrench, when in use, does the greatest strain come?

Ans. At the point near the head where the bar joins.

Cross-int. 10. Suppose the screw threads upon the bar of the wrench Complainant's Exhibit Complainant's Patented Wrench were cut away so as to leave not more than one-half of the present surface in the circumference of the bar for the nut to hold to, do you

think the mechanical characteristics of the wrench would be changed at all by such cutting away?

(Objected to as immaterial, inadmissible, and incompetent.)

Ans. I do.

Cross-int. 11. In what respect?

(Same objection.)

Ans. As I have understood the term "mechanical characteristics," it includes the practical utility of the wrench, and this cutting away of threads would certainly impair its strength.

Cross-int. 12. It would be of some practical utility, would it not, even if the threads were so cut away, or even to a greater extent?

(Same objection.)

Ans. Certainly it would, with the presence of the handle and nut at the lower end.

Cross-int. 13. Do you not think that a wrench constructed like Defendants' Exhibit Riveted Wrench and Defendants' Exhibit Bolted Wrench would also be of some practical utility?

Ans. I do consider it of some practical utility.

Cross-int. 14. Do you think the mechanical characteristics of a wrench like Complainant's Exhibit Complainant's Patented Wrench would be changed in any other respect than degree of strength by cutting away of the threads as suggested in Int. 10; if so, what?

(Objected to as immaterial and irrelevant.)

Ans. I do. By reducing the threads as mentioned they
93 might be worn away entirely in a shorter space of time by continued use of the wrench.

Cross-int. 15. Would that be anything more than degree of strength or durability?

(Same objections.)

Ans. It would be a defect in construction without a purpose.

Cross-int. 16. Upon how much of the surface of the circumference of the bar of the wrench like Complainant's Exhibit Complainant's Patented Wrench do you consider it necessary that the screw threads should be cut in order to possess the mechanical characteristics called for?

(Same objections.)

Ans. I should say that the amount now occupied on the bar by the threads of the nut is about the smallest quantity, considering the size of the wrench and the materials used.

Cross-int. 17. And, as I understand you, any material variation of the extent of the threads on the wrench bar from that shown would change the mechanical characteristics of the wrench?

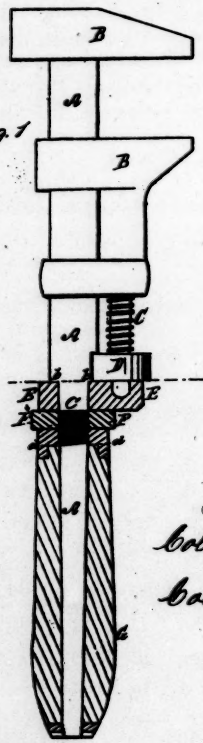
(Objected to as immaterial and irrelevant if put in the form of a question; and, further, it is immaterial, so far as the testimony of this witness is concerned, what the understanding of the counsel is.)

# Jordan & Smith, 94

## Wrench.

No 50,364. Patented Oct. 10, 1865.

Fig. 1

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Coes et al.
p. 94

Fig. 2

Witnesses;
Wm Keurn
Thos. Fusch

Inventor;
L. Jordan
L. E. Smith
By Munn & Co
Attys

Ans. Any material reduction of the screw threads which actually mesh between the nut and the bar would not change the mechanical construction so much as it would change the practical utility of the wrench.

Direct examination resumed:

Int. 18. If a simple tapered pin passing through step plate and bar is relied upon to hold the step plate to the bar, is such a mode of fastening permanent in the ordinary and practical use of a wrench, as exemplified in Defendants' Exhibit Bolted Wrench?

Ans. It is not, without additional improvements.

Int. 19. Why not?

Ans. Because the bolt might be lost out.

Int. 20. What improvement do you think would be necessary to make such a fastening permanent for practical use of the wrench?

94 (Objected to as going outside of the record, and also as irrelevant.)

Ans. Riveting or brazing would answer the requirement of permanency.

WILLIAM MASON.

Attest: EDWARD B. BENNETT,
*Special Examiner.*

EXHIBITS.

EXHIBIT COMPLAINANT'S ORIGINAL PATENT. W. H. M., Special Examiner.

*Letters Patent of the United States No.* 50364, *Granted Jordan and Smith Oct.* 10, 1865.

Improved Wrench.

*Specification.*

To all whom it may concern:

Be it known that we, Lucius Jordan and Leander E. Smith, of Southington, in the county of Hartford and State of Connecticut, have invented new and useful improvements in wrenches; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

(Here follows diagram marked p. 94.)

Figure 1 is a side elevation of a wrench with a part in section to show the application of our invention.

Figure 2 is a top or face view of the ferrule or step we use as a bearing for the nut, which operates the sliding jaw of the wrench.

Figure 3 is an inverted plan view of the nut, which bears against the ferrule and which is recessed to receive the handle.

Similar letters of reference indicate like parts.

Our invention consists in the employment or use of a ferrule or step into which is fitted to work the end or journal of the screw rod which carries the nut by which the sliding jaw of the
95 wrench is operated and against which the said nut bears; and it further consists in the use of a nut which is screwed upon a thread cut on the bar of the wrench so that it will bear against the said ferrule or step and keep it rigidly in place, by which arrangement a strong and durable wrench is obtained, as will be hereinafter explained.

To enable others to understand our invention we will proceed to describe it.

A represents the bar of the wrench, one part of which is made of the usual shape, and has the sliding jaw B attached in the ordinary way. The other end is made of a form capable of receiving upon it the wooden handle G of the wrench.

C is the screw rod and D the nut for operating the sliding jaw B of the wrench. E is a ferrule or step into which rests one end, or, rather, the journal of the screw rod C, as shown clearly in Fig. 1.

The form of the ferrule or step E is shown clearly in Fig. 2, the hole *a* being for the admission through it of the bar A, which carries the handle of the wrench, and the recess *a'* for a bearing or journal box for the screw rod C. This ferrule or step, when in a proper position on the bar, rests against a shoulder, *b*, upon the bar A, as will be understood by reference to Fig. 1.

On the bar A, just below the place where the ferrule or step E encircles it, there is cut a screw thread, *c*, on which is fitted to screw a nut, F, which is to be screwed up firmly against the ferrule or step E before the wooden handle G is put upon the wrench. A recess, *d*, is made in the lower face of this nut F to receive the handle G of the wrench, said handle being secured in place by a nut, *d*, at the lower end, in the usual way.

By this arrangement the wrench is made far stronger than it would otherwise be, and therefore more durable. In the ordinary wrench the strain comes upon the wooden handle, which is hardly ever secured sufficiently firm to withstand the great strains to which the several parts of the wrench are oftentimes subjected. In our wrench the entire strain falls upon the nut, and this is secured on the bar of the wrench tightly and firmly against the ferrule or step, against which latter bears the nut that operates the sliding jaw of the wrench. A casual displacement of this nut F is not possible, and it is firm enough to withstand any strain that the wear is capable of subjecting it to.

96 The wrench operates easily, and it is not likely to get out of order.

What we claim as new and desire to secure by letters patent is—

1. The step E, when held in place upon the bar, substantially as and for the purpose herein set forth.

2. The nut F, fitted to screw upon the bar A, so that one of its

sides or faces will rest against the step E, and the other recessed to receive the upper end of the handle, substantially as described.

3. The combination of the step E, screw rod C, nut D, and nut F, substantially as herein shown and described.

LUCIUS JORDAN.
LEANDER E. SMITH.

Witnesses:

HENRY R. BRADLEY.
JULIUS B. SAVAGE.

EXHIBIT COMPLAINANT'S JORDAN & SMITH ASSIGNMENT. W. H. M., Special Examiner.

THE UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of an assignment recorded in Liber M$^{s}$, page 340.

In testimony whereof I, Ellis Spear, acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this sixteenth day of October, in the year of our Lord one thousand eight hundred and seventy-five, and of the Independence of the United States the one hundredth.

[SEAL.] ELLIS SPEAR,
*Acting Commissioner.*

Whereas letters patent of the United States were, upon the 10th day of October, A. D. 1865, issued to Lucius Jordan and Leander E. Smith for an improved wrench, dated upon said date and numbered 50364:

Now, therefore, we, the said Lucius Jordan and Leander E. Smith, both of Southington, in the county of Hartford and State of Connecticut, for divers causes and considerations us thereunto moving, and especially in consideration of the sum of eight hundred
97 dollars to us paid by The Collins Company, a corporation duly organized under and by virtue of the laws of said State, and located and doing business at Collinsville, in the town of Canton, in said county and State, do hereby sell, assign, transfer, and convey to the said Collins Company, their successors or assigns, the said letters patent so issued to us as aforesaid, and all our right, title, and interest therein and in and to the invention therein described and secured, and also to all reissues or extensions of said letters patent that may hereafter be made at any time, the same to be held and enjoyed by said Collins Company and their successors and assigns for their use and behoof to the full end of the term for which said letters patent are or may be granted as aforesaid as fully and entirely as the same would have been held and enjoyed by us had this assignment and sale not been made.

In witness whereof we have hereunto set our hands and seals this first day of June, A. D. 1866.

LUCIUS JORDAN. [SEAL.]
LEANDER E. SMITH. [SEAL.]

[2-cent internal revenue stamp.]

Witnesses:
EDWARD H. LEAR.
OLIVER F. PERRY.

Received and recorded June 21, 1866.

EXHIBIT COMPLAINANT'S REISSUED PATENT. W. H. M., Special Examiner.

*Letters Patent of the United States Reissue No. 5294, Granted The Collins Company, Assignees of Lucius Jordan and Leander E. Smith.*

Improvement in Wrenches.

Specification forming part of Letters Patent No. 50364, dated Oct. 10, 1865; Reissue No. 3852, dated Feb. 22, 1870; Reissue No. 5294, dated Feb. 25, 1873.

To all whom it may concern:

Be it know that Lucius Jordan and Leander E. Smith, of Southington, in the county of Hartford and State of Connecticut,
98 invented a new and useful improvement in wrenches, of which the following is a specification:

*Nature and Objects of the Invention.*

The object of this invention is the prevention of end thrust or back pressure on the wooden handles of wrenches, which has heretofore availed to quickly destroy such wooden handles, and in destroying the handles has left the working parts of the wrench which depended upon the handles for support without such support, so as to injure and effectually impair their working qualities and efficiency, and is accomplished by so connecting the step which forms a bearing for the lower end of the screw rod with the bar which forms the main part of the wrench that the back pressure put upon the step by the screw rod will be directly transmitted to the wrench bar at the place of connection therewith, and will not be transmitted to and mainly put upon the wooden handle.

*Description of the Accompanying Drawing.*

(Here follows diagram marked p. 98.)

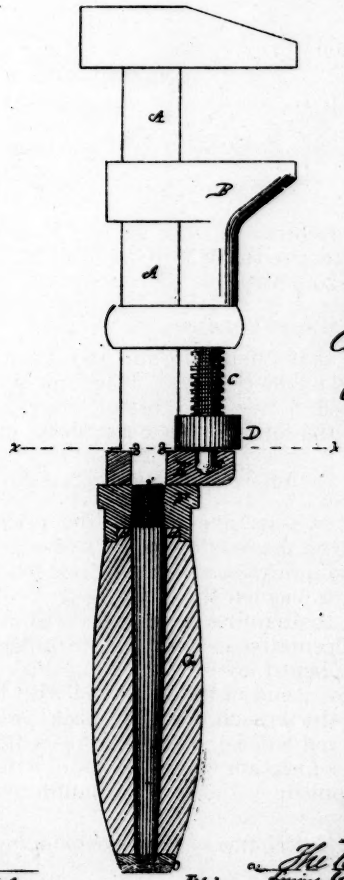
Figure 1 is a side view of the whole wrench, the part below the dotted line $x\ x$ being in section. Fig. 2 is a top or plan view of the step which forms a bearing for the lower end of the screw rod.

L. JORDAN & L. E. SMITH. The Collins Company, Assignee.

Wrenches.

No. 5,294. Reissued Feb. 25, 1873.

Fig 1




No. 164. Collins Co. v. Coes et al. } p 98

Witnesses

L. Häfel

T. E. Steele

Fig 2

Assignee of Inventors

The Collins Company

Louis Jordan & L. E. Smith

by Wm. E. Simonds Atty

*General Description.*

The letter A indicates the wrench bar, flat-sided down to the under side of the step E, and from thence downward cylindrical or of other convenient shape, so as to take upon it the wooden handle G. B is the movable jaw. The letter C indicates the screw rod and D the rosette by which it is turned. The letter E indicates the step, in which is the bearing *s* for the lower end of the screw rod, and also the hole *a* to admit the bar A, and fitting up against the shoulder *b*. On the bar A, just below the step E, is cut the screw thread *i*, on which screws the nut F, forming a prejection from the wrench bar, on which rests the step E, and thus transmits the back pressure put upon the step directly to the wrench bar at the place of connection therewith, and thus relieves the wooden handle therefrom, the connection of the step with the bar being made in such man-
99 ner that the steps may be removed or taken off the bar without any cutting or abrasion of parts.

The nut not only supports the step, but can be made to rigidly fasten the step to the bar by screwing it firmly up against the step so as to gripe it between itself and the shoulder *b*, thus giving the nut, so to speak, a double office, viz., that of supporting the step and also that of fastening it rigidly to the bar. The nut is interiorly recessed at *d* for the purpose of forming a ferrule for the top of the wooden handle.

Heretofore the part designed to perform the office of the step E has rested directly on the wooden handle, which was secured upon the bar by a light nut, *o*, at the lower extremity of the bar, which is the present method of fastening on the handle.

It is known that previous to this invention steps have been forged or otherwise produced solid with the bar, and this became as much a part of it as the solid head at extremity of bar, and also by riveting to reach similar result; but such method, by making a permanent fastening, renders it impossible or a work of great difficulty to displace the step in order to remove the sliding jaw for repairs. It will be observed that, while Jordan and Smith's method of fastening is as firm as the permanent fastenings last above referred to, their step can readily be removed and again put in place at pleasure.

It is believed that Smith and Jordan were the first to secure easy divisibility of step and bar, together with a fixed or stationary step when in position, and at the same time supporting the step when in position immediately by the bar and not mediately through the handle, as the manner had been.

As a matter of definition, the Jordan and Smith method of fastening and supporting the step when in position is denominated "removable" hereinafter in contradistinction from a connection and support made by forging or otherwise producing the step in one solid piece with the bar, and therefore a part of it, or by riveting it thereto, or the like.

100 *Claims.*

1. The step, combined with the wrench bar and supported by the nut F or its equivalent, at the place where the step is connected with the bar, in such manner that the step can be removed from the bar without cutting or abrasion of parts.

2. The nut F, combined with the wrench bar, and interiorly recessed at *d*, for the purpose set forth.

3. The nut F, combined with the threaded bar, and performing the office of supporting the step and also of rigidly fastening it to the bar, for the purpose set forth.

In witness whereof The Collins Company has hereto set its hand.

THE COLLINS COMPANY,
By W. J. WOOD,
*Vice-President and Chief Executive Officer.*

Witnesses:
CHAS. BLAIR.
LUKE CHAPMAN.
EDWARD H. SEARS.

EXHIBIT COES' ORIGINAL PATENT. C. H. S., Sp'l Ex'r.

*Letters Patent of the United States No.* 2054, *Granted Loring Coes April* 16, 1841.

Improvement in the Method of Constructing Screw Wrenches.

*Specification.*

To all persons to whom these presents shall come Loring Coes, of Springfield, in the county of Hampden and State of Massachusetts, sends greeting:

Be it known that I, the said Loring Coes, have invented a new and useful improvement in the adjusting hand wrench used by mechanics for turning or screwing up nuts and screws of dif-
101 ferent sizes, and that the following is a full and exact description of thesame. The said description, taken in connection with the accompanying drawings hereinafter referred to, forms my specification, setting forth and exhibiting the principles of construction of my improvement by which it may be distinguished from other inventions of a like character, and such parts or combinations as I claim in the same and for which I solicit letters patent.

The drawing herewith presented represents a side view of a screw wrench as improved by me.

(Here follows diagram marked p. 101.)

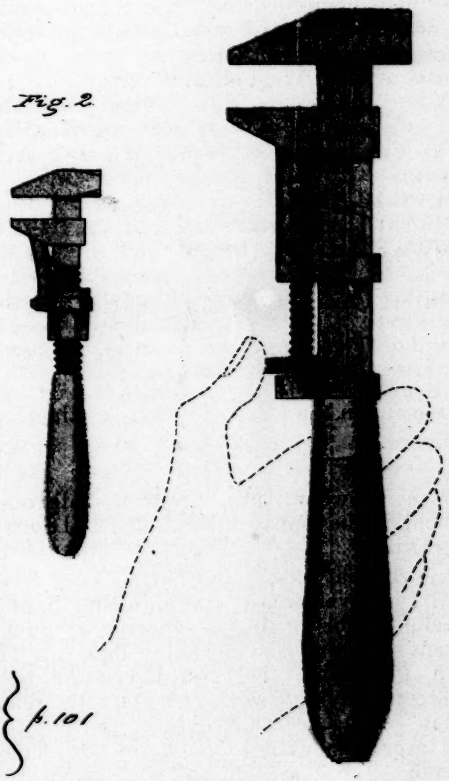
A is the shank, which I construct of a rectangular, square, or other proper shape, in cross-section. The upper or hammer jaw, C, is attached to its extremity in the usual manner, while the lower jaw, B, is placed upon the shank so as to traverse or slide back and

# Loring Coes' Screw Wrench

No. 2.054

Patented 16 April: 1841.
Reissued 26 June 1849.

Fig. 2.



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Specification & Drawings From R. H. Eddys Office.

forth thereon, as it is generally applied thereto. To the under side of the jaw B a piece of metal, D, of convenient length, is attached, proceeding at right angles to the jaw or parallel to the shank A, and is connected at its opposite end to a slide, E, through which the shank A passes.

The piece D is perforated throughout its length with a female screw, into which a screw, F, is adapted —, as seen in the drawing. The screw F has a milled nut, G, on or near its lower end, which, when the screw is placed in position, passes into a small notch, H (represented by dotted lines formed or cut in the side of the shank). The lower side of the nut G rests upon the top of a piece of metal, I, which clasps or is applied to and projects from the shank A, as seen in the drawing, the said piece I serving at the same time as a bearing for the end of the screw F, which continues through the nut G into and turns in a step in the piece I. This is shown at K by dotted lines. The handle L is connected to the shank by a nut, M, which is screwed upon the end of the shank A where it projects beyond the extremity of the handle L. By this arrangement of the parts I am enabled to construct the shank A much stronger than when the same has a screw cut thereon, as in most other kinds of screw wrenches; and, furthermore, the parts serve in a better manner to support each other when the instrument is used with much of a strain on the nut, and are less liable to break than those in the ordinary wrenches.

The jaw B is caused to advance towards or recede from the
102 hammer jaw C by revolving the screw F by the thumb applied to the milled nut G when the handle is grasped by the workman. This is shown by dotted lines in the drawing, and it will be further observed that the peculiar position of the nut G renders the change in the distance of the two inner faces of the jaws B C from each other very easy by the thumb alone when the wrench is held in hand and the same is applied to a nut or screw.

The advantages of my improved wrench, so far as strength and convenience of parts are concerned, over those in common use will be apparent by inspection of Fig. 2, which represents the ordinary wrench with the screw cut or formed on the shank.

Having thus described by invention, I shall claim combining the screw which operates the sliding jaw (and which is placed on one side of the shank upon which the said jaw moves and to the extremity of which the hammer jaw is applied) with a female screw formed through a projection from the sliding jaw situated on the same side of the shank with the adjusting screw, the said adjusting screw to be suitably supported and to have a turning or milled nut placed thereon, a portion of whose edge or periphery shall pass into a notch or other similar contrivance formed in or upon the side of the shank of the wrench, so that the said adjusting screws may be always kept in the same position and when revolved cause the lower jaw to slide on the shank, the whole being arranged and operating substantially as hereinbefore set forth.

In testimony that the above is a true description of my said inven-

tion and improvement I have hereto set my signature this fourth day of February, in the year eighteen hundred and forty-one.

LORING COES.

Witnesses:
R. H. EDDY.
EZRA LINCOLN, Jr.

103 EXHIBIT TAFT PATENT. C. H. S., Special Examiner.

*Letters Patent of the United States No.* 40590, *Granted Thomas H. Dodge, Assignee of George C. Taft, Nov.* 10, 1863.

## Improvement in Wrenches.

*Specification.*

To all whom it may concern:

Be it known that I, George C. Taft, of Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful improvement in screw wrenches; and I do hereby declare that the following is a clear, full, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

(Here follows diagram marked p. 103.)

Fig. 1 represents a perspective view of my improvement, and

Fig. 2 represents a detached view of the "rosette" and therewith connected.

Similar letters of reference indicate like parts in the drawings.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

A is the shank of my wrench, B the stationary jaw, and B′ the sliding jaw, through the part B″ of which the operating screw C works.

D is the "rosette" formed in one piece, as shown, with the screw C and journaled at *a* to ferrule E.

Parallel grooves *d d d* are cut in the shank A, in which projections *e e e* of the rosette turn.

The projections *e e e* are made parallel to each other and are beveled on one side, as shown, to lessen the friction of the rosette upon turning.

The operation is as follows:

To adapt the opening between the jaws to the size of the object to be clasped thereby the operator turns the rosette to the
104 right or left, as the size of the object will indicate, which will turn the screw in the part B″ of the sliding jaw B′, and, as to the way turned, will increase or diminish the distance between the jaws as required.

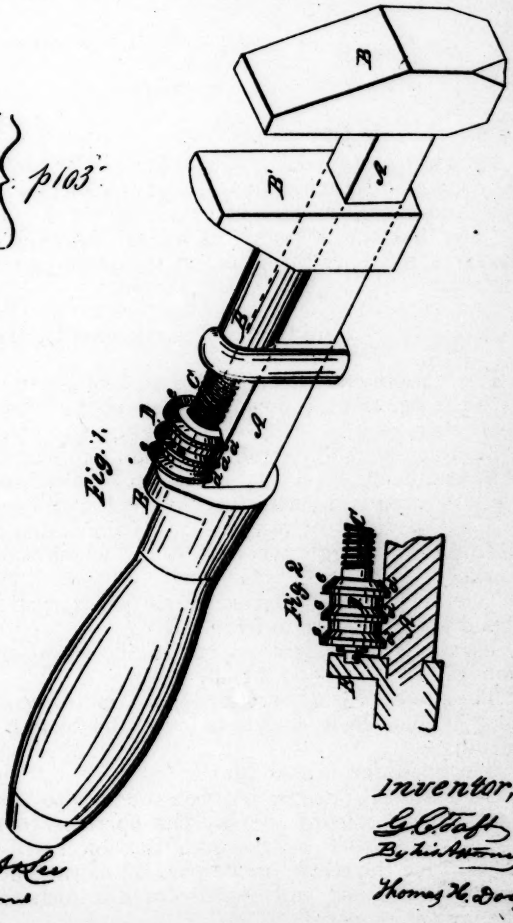
The advantages of having the "rosette" of this form is that it sus-

# G. C. Taft,

## Wrench.

No. 40,590. Patented Nov. 10, 1863.

No. 164.
Collins Co.
v.
Cox et al.
p 103




Witnesses;
W. Yorke Ax Lee
A C Widdicomb

Inventor;
G. C. Taft
By his Attorney
Thomas H. Dodge

# L. Coes,
## Screw Wrench.

No. 2,054. Patented Apr. 16, 1841.

Fig: 2.

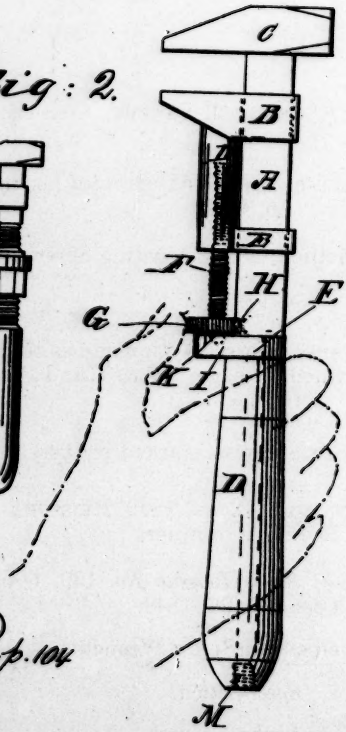



Fig. 1.

No. 164.
Collins Co.
v.
Cole et al.
p. 104

tains the pressure which would otherwise come on the ferrule E, which pressure is often so great as to break it off or displace it, thus rendering the whole wrench useless.

Having thus described my improved wrench—

I am aware that the rosette of screw wrenches has heretofore been constructed with a screw thread and I do not claim such device, but what I claim and desire to secure by letters patent is—

The combination of the parallel grooves *d d d* in the shank A with the corresponding projections *e e e* on the rosette D, the same not being spiral but running at right angles to the line of motion of the jaw, thus relieving the ferrule from all strain while retaining the rosette in the same relative position as respects the handle of the wrench, substantially as and for the purposes set forth.

In witness whereof I have hereunto subscribed my name.

GEO. C. TAFT.

In presence of—
JAMES H. BANCROFT.
JOHN GOULDING.
ADDISON P. BROWN.
TIMOTHY F. TAFT.

COMPLAINANT'S EXHIBIT COES' 1841 PATENT. W. H. M., Special Examiner.

*Letters Patent of the United States No.* 2054, *Granted Loring Coes April* 16, 1841.

Improvement in the Method of Constructing Screw Wrenches.

*Specification.*

(MEMORANDUM.—This specification is the same as that of Exhibit Coes' Original Patent, printed on pages 100, 101, and 102, and therefore is not here printed.—J. G. S., clerk.)

(Here follows diagram marked p. 104.)

105 COMPLAINANT'S EXHIBIT COES' 1849 REISSUE. W. H. M., Special Examiner.

*Letters Patent of the United States Reissue No.* 139, *Granted Loring Coes June* 26, 1849.

Improvement in Screw Wrenches.

*Specification.*

To all to whom these presents shall come:

Be it known that I, Loring Coes, of Worcester, in the county of Worcester and State of Massachusetts, have invented new and use-

ful improvements in screw wrenches, and that the following is a full, clear, and exact description of the principle or character of which distinguishes them from other things before known, and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is an elevation of my improved wrench, and

Figure 2 an elevation of a wrench previously known but not of my invention.

In my improved wrench the inner jaw slides on the bar of the permanent jaw and handle and is moved by a screw at the side of the bar, operated by a head or rosette, which always remains in the same position relatively to the handle, whereby the movable jaw can be adjusted with the thumb of the hand, which grasps and holds the handle. The principle or character of my invention and that which distinguishes it from all other things before known consists in moving the adjustable jaw by means of a screw placed at the side of and parallel with the bar of the permanent jaw and handle, when the required rotation for sliding the jaw is given by a rosette or head, or the equivalent thereof, which retains the same position relatively to the handle; and my invention also consists in retaining the required position of the rosette or its equivalent, by which
106 the required motion is given to the sliding jaw, by having its periphery to work in a notch or recess in the bar of the permanent jaw and handle, or *vice versa*.

In the accompanying drawings (A) represents a quadrangular bar of metal with a permanent or hammer jaw (C) at one end, the other end being reduced in size to pass through a handle (L), secured to it by a nut (M). Between the ferrule of the handle and the shoulder of the bar an iron plate (I) is griped by the securing of the handle onto the bar, and this plate extends out sufficiently beyond the bar to receive the journal (K) (see dotted lines) of a screw (F), which is placed parallel with and by the side of the bar. This screw is tapped into a tubular piece (D) that projects from the back face of the adjustable jaw (B), which is fitted to slide on the bar from or towards the permanent jaw (C), the rear end of the tubular projection (D) being provided with and sustained by a bridle (E), which embraces and slides on the bar. At the rear end the screw is provided with a head or rosette (G) the periphery of which turns in a notch or recess (H) made in the edge of the bar, as shown by dotted lines, by which the position of the said rosette is retained relatively to the handle. The hand, represented by dotted lines, indicates the manner in which my improved wrench is operated. The handle is grasped by the fingers, and the rosette is operated by the thumb of the same hand, so that without any change in the position of the hand the movable jaw can be moved towards or from the permanent jaw, to set the wrench to any size required, with one hand.

By means of my improvement the bar can be made of any desired form best adapted to the sliding jaw and to strength. The rosette or its equivalent employed for operating the jaw is always retained in the same position relatively to the hand that gripes the

# L. Coes.
# Wrench.



№ 139. Reissued June 26, 1849.

No. 164. Collins Co. } p. 106.
" Cole et al. }

Fig: 1.

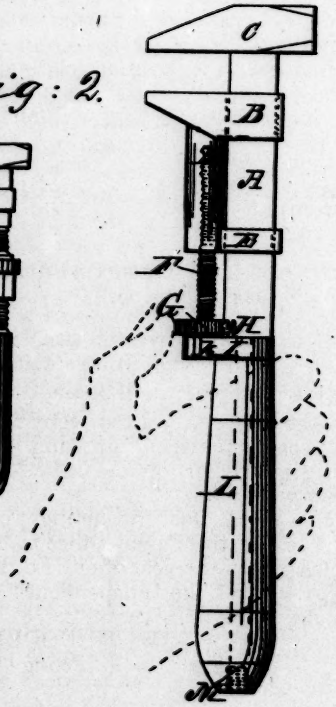



Fig: 2.

handle. At the same time, the use of two bearings for the screw is avoided.

The advantages of my improved wrench over other methods of construction will be seen by comparison with the wrench represented by figure 2 of the accompanying drawings.

(Here follows diagram marked p. 106.)

What I claim as my invention and desire to secure by letters patent is moving the sliding jaw by a screw, combined with and placed by the side of and parallel with the bar of the perma-
107 nent jaw and handle, substantially as described, when the required rotation for sliding the jaw is given by the head or rosette (or its equivalent), which retains the same position relatively to the handle during the operation, substantially as described.

And I also claim moving the sliding jaw by a screw, combined with and placed by the side of and parallel with the bar of the permanent jaw and handle, substantially as described, in combination with the rosette or its equivalent, retained in its position relatively to the hand in the manner described.

LORING COES.

Witnesses:
ISAAC DAVIS.
JONATHAN DAY.
J. S. WOODWORTH.

COMPLAINANT'S EXHIBIT COES' 1849 REISSUE APPLICATION. W. H. M., Special Examiner.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the files of this office of the file wrapper, contents, and drawing in the matter of the reissue letters patent granted Loring Coes June 26, 1849, No. 139, for improvement in screw wrenches.

In testimony whereof I, W. H. Doolittle, acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this seventh day of April, in the year of our Lord one thousand eight — and seventy-nine, and of the Independence of the United States the one hundred and third

[SEAL.] W. H. DOOLITTLE,
*Acting Commissioner.*

108 STATE OF MASSACHUSETTS, }
*County of* [*Hampton*] **Worcester*,* } ss:

On this sixteenth day of April, A. D. 1849, before the subscriber, a justice of the peace for said county, personally appeared the within-

Words between brackets [ ] erased and words between stars * * interlined.

named Loring Coes, of [Springfield] *Worcester,* in said county, and made solemn oath that he verily believes himself to be the original and first inventor of the herein-described improvements in screw wrenches, and that he does not know or believe that the same was ever before used or known, and that he is a citizen of the United States.

ISAAC DAVIS,
*Justice of the Peace.*

To the Commissioner of Patents:

The petition of Loring Coes, of [Springfield] *Worcester,* in the county of [Hampden] *Worcester* and State of Massachusetts, respectfully represents—

That he has made certain new and useful improvements in screw wrenches, and that he has obtained letters patent for the same, bearing date the 16th day of April, 1841; that he now believes the said letters patent to be invalid by reason of a defective specification, which defect has arisen from inadvertence, accident, and mistake. He therefore prays that he may be allowed to surrender, and he hereby does surrender, the same, and requests that new letters patent may issue to him for the residue of the period for which the original patent was granted upon the amended specification herewith presented, agreeably to the provisions of the act of Congress in that case made and provided, he having paid fifteen dollars into the Treasury and complied with other requirements of the said act; and he hereby authorizes Charles M. Keller to act as his attorney in presenting this application, altering or withdrawing the same, and to receive the patent when granted.

LORING COES.

109 To all to whom these presents shall come:

Be it known that I, Loring Coes, of [Springfield] *Worcester,* in the county of [Hampden] *Worcester* and State of Massachusetts, have invented new and useful improvements in screw wrenches, and that the following is a full, clear, and exact description of the principle or character of which distinguishes them from all other things before known, and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings making part of this specification, in which figure 1 is an elevation of my improved wrench and figure 2 an elevation of a wrench previously known but not of my invention.

In my improved wrench the inner jaw slides on the bar of the permanent jaw and handle, and is moved by a screw at the side of the bar, operated by a head or roset, which always remains in the same position relatively to the handle, whereby the movable jaw can be adjusted with the thumb of the hand which grasps and holds the handle. The principle or character of my invention, and that which distinguishes it from all other things before known, consists in moving the adjustable jaw by means of a screw placed at the side

Words between brackets [ ] erased and words between stars * * interlined.

L. Coes.

Wrench.

109

No 139.

Reissued June 26, 1849.

Fig: 1.

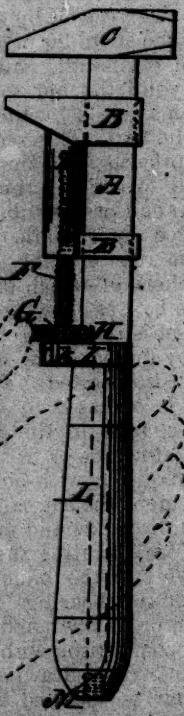



Fig: 2.

No. 164. Collins Co. v. Cole et al. } p. 109.

of and parallel with the bar of the permanent jaw and handle when the required rotation for sliding the jaw is given by a roset or head or the equivalent thereof, which retains the same position relatively to the handle; and my invention also consists in retaining the required position of the roset or its equivalent by which the required motion is given to the sliding jaw by having its periphery to work in a notch or recess in the bar of the permanent jaw and handle, or *vice versa*.

In the accompanying drawings—

(Here follows diagram marked p. 109.)

(A) represents a quadrangular bar of metal with a permanent or hammer jaw (C) at one end, the other end being reduced in size to pass through a handle (L) secured to it by a nut (M). Between the ferrule of the handle and the shoulder of the bar an iron plate (I) is griped by the securing of the handle onto the bar, and this plate extends out sufficiently beyond the bar to receive the journal (K) (see dotted lines) of a screw (F), which is placed parallel with and by the side of the bar. This screw is tapped into a tubular piece (D) that projects from the back face of the adjustable jaw (B), which is fitted to slide on the bar from or towards the permanent jaw (C), the rear end of the tubular projection (D) being provided with and sustained by a bridle (E) which embraces and slides on the bar. At the rear end the screw is provided with a head or roset (G), the periphery of which turns in a notch or recess (H) made in the edge of the box, as shown by dotted lines, by which the position of the said roset is retained relatively to the handle.

The hand, represented by dotted lines, indicates the manner in which my improved wrench is operated. The handle is grasped by the fingers and the roset is operated by the thumb of the same hand, so that without any change in the position of the hand the movable jaw can be moved towards or from the permanent jaw, to set the wrench to any size required, with one hand.

By means of my improvement the bar can be made of any desired form best adapted to the sliding jaw and to strength, and the roset or its equivalent employed for operating the jaw is always retained in the same position relatively to the hand that gripes the handle. At the same time, the use of two bearings for the screw is avoided.

The advantages of my improved wrench over other methods of construction will be seen by comparison with the wrench represented by figure 2 of the accompanying drawings. [Although I have specified that the sliding jaw is operated by a screw tapped into a projection from its back face, I do not wish to confine myself to this precise arrangement, but to cover all the equivalents thereof, as it will be obvious that, by simply inverting the order, the screw may project from the movable jaw and be tapped into the roset or head.

And it will also be obvious that, for retaining the roset or head in the same position relatively to the handle instead of the notch or recess in the bar, this may be inverted by having a groove in the

bar, this periphery thereof to receive a projecting fillet from the edge of the bar, the one being the well-known equivalent of the other.]

What I claim as my invention and desire to secure by letters patent is moving the sliding jaw by a screw, combined with and placed by the side of and parallel with the bar of the perma-
111 nent jaw and handle, substantially as described, when the required rotation for sliding the jaw is given by the head or roset (or its equivalent), which retains the same position relatively to the handle during the operation, substantially as described.

And I also claim [in combination with the before-described combination of the bar, sliding jaw, and screw, the method of retaining the roset or head in the same position relatively to the handle or its equivalent, substantially as described] *moving the sliding jaw by a screw combined with and placed by the side of and parallel with the bar of the permanent jaw and handle, substantially as described, in combination with the roset or its equivalent, retained in position relatively to the head in the manner described.*

LORING COES.

Witnesses:
ISAAC DAVIS.
JONATHAN DAY.
J. S. WOODWORTH.

No. 2605. 5 JUNE, 1849.

In conformity to an act of Congress entitled "An act to promote the progress of the useful arts," approved 4th of July, 1836, I have received of Loring Coes fifteen dollars, which sum has been placed to the credit of my account in the off. Ass't T'r U. S., New York, under the date of 10 May, 1879, and for which I have signed a receipt, for a patent improved wrench.

W. SELDEN,
*Treasurer of the United States.*

ALLEN A. HALL,
*Register of the Treasury.*

Registered: J. C. H.

Reissue No. 139.

Loring Coes, of Worcester, county of Worcester, State of Massachusettes.

Screw wrenches.

Rec'd May 14, '49; petition, affidavit, specification, drawing, model, old pat.

112 1. Cert. dep., $15, May 14, '49.
3. Cash, —.

Examined: Renwick, June 14, 1849.

Issue: De Witt C. Laurence, June 15, 1849.

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Words between brackets [ ] erased and words between stars * * interlined.

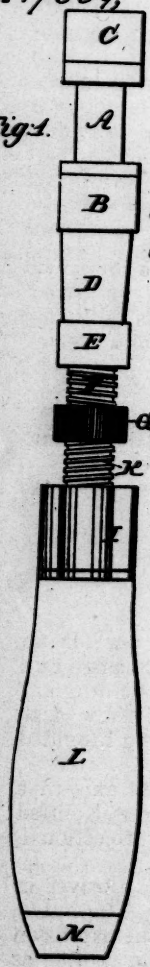
# Taft & Mason



## Screw Wrench,

No. 17609, Patented June 16, 1857.

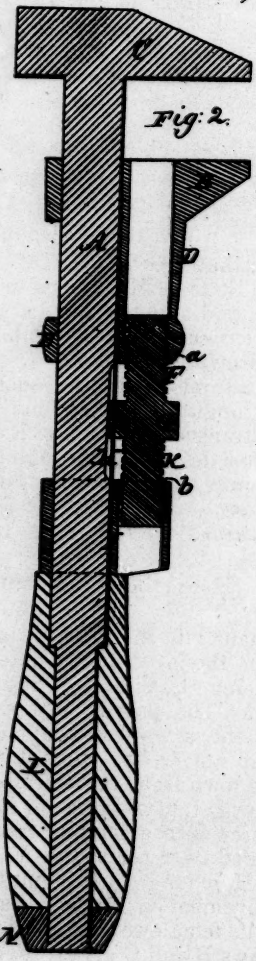
Fig: 1.




No. 164 Collins Co. & Coes et al. } p. 112

Fig: 3.

Fig: 2.



Patented April 16, 1841; reissued June 26, 1849.
Recorded vol. 2, page 175.
C. W. Keller.
Spec. ret'd May 18, 1849.
Improvement in screw wrenches.

COMPLAINANT'S EXHIBIT TAFT'S 1857 PATENT. W. H. M., Special Examiner.

*Letters Patent of the United States No.* 17609, *Granted Henry W. Mason, Assignee of George C. Taft, June* 16, 1857.

Improved Screw Wrench.

*Specification.*

To all persons to whom these presents shall come:

Be it known that I, George C. Taft, of Worcester, in the county of Worcester and State of Massachusetts, have invented an improved screw wrench, and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

Figure 1 is a front elevation of such article;

Figure 2, a longitudinal section of it;

Figure 3, a transverse section of it, taken through the thumb nut, to be hereinafter described.

My invention is an improvement on that patented April 16, 1841, by Loring Coes.

In the drawings—

(Here follows diagram marked p. 112.)

A is the shank; B, the movable jaw; C, the hammer jaw; D, an extension from the jaw B; E, a slide fastened to said extension and embracing the shank; L, the handle, and N the holding nut
113 thereof. The part D is provided with a female screw, *a*, to which the screw F is adapted, such screw F being provided with a thumb nut, G, by which it may be revolved.

Extending down from the thumb nut G and with its axis in a straight line with that of the screw E is another male screw, K, fitted to work or screw into a female screw, *b*, formed in the projection I, that is extended from the shank A.

A groove, H, is made in the shank A for the nut G to travel in during its movement in directions parallel to the shank. The nut G, the screw F, its female screw, the slide E, the shank A, the extension D, and the jaws B and C are arranged with regard to one another as seen in the drawings, such arrangement being the same as that of such parts in the said wrench of the said Coes. I apply and arrange a second screw, K, and a nut, *b*, with reference to them, as above described, the threads of the two screws F and K being pitched con-

trary ways, in order that when the nut G is revolved each revolution may move the jaw B either towards or away from the jaw C double the distance that it could be moved were the nut G and its screw F to have no other than a rotary motion, as in the wrench of the said Coes.

With my addition or improvement the nut G and its screws F and K when rotated also have a motion parallel with the shank A and either towards or away from the jaw C, according to the direction in which the nut may be rotated.

I do not claim the invention of the aforesaid wrench of Loring Coes on which a patent was granted to him on April 16, 1841, for fourteen years and subsequently extended for seven years longer. My invention or wrench has an advantage over such wrench, as, while it possesses all the essential greatness of the said Coes wrench, its sliding jaw can be moved with more rapidity than that of the said Coes wrench.

Although I have mentioned the second screw K and its female screw as an addition I have made to the wrench of the said Coes, I would further state that what constitutes my invention or improvement is not the mere addition of auxiliary male and female screws to the said Coes wrench, but my improvement is to be found in the manner in which they are applied with reference to the nut, the handle, and the shank. In my improved wrench the two male screws F and K are arranged so as to project in opposite directions from the nut G. The projection I, carrying the female screw B, extends from the shank A and is arranged so as to rest against the upper end of the handle L, and at the same time it may form a ferrule to said handle. As the handle is held in the shank by the nut N a force tending to move the jaw B downward away from the jaw C when the wrench is in use on a nut will be resisted by the nut N and the jaw C. Furthermore, a force tending to bend or break the shank between the parts I and E or just above the handle will be resisted by the nut G and the male screws, the nut, by being sprung against the shank, serving to prevent the screws from being bent.

114

I am aware of the construction of the wrench for which Nathan Whipple applied for a patent and was rejected on or about the 24th of May, A. D. 1854, such wrench having an auxiliary male and female screw. In this wrench, however, the auxiliary female screw was made in a piece of metal made to embrace the shank and to be fastened to it by rivets extending through such piece and the shank. Besides this, the said piece of metal containing the auxiliary female screw was arranged at a considerable distance from the handle and did not rest on it. Furthermore, the nut, instead of being arranged between the two male screws, was placed at the lower end of the lower screw and below the part carrying the auxiliary female screw. In this case the nut could in no respect operate to prevent breakage of the shank under great lateral strain, nor did the shank nut at the lower end of the handle serve with the handle in any manner to give support to the movable jaw, as is the case in my improved wrench. In the wrench of the said Whipple the shank, owing to having rivet

G. C. Taft, 115

Wrench.

No. 20,379. Patented May 25, 1858.

Fig 1

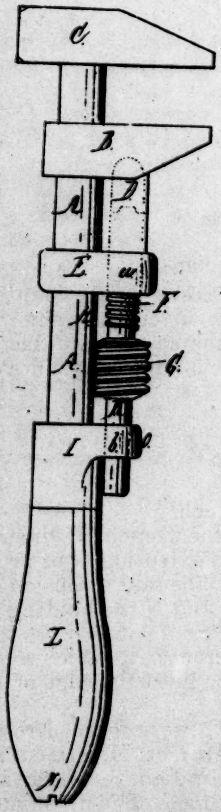
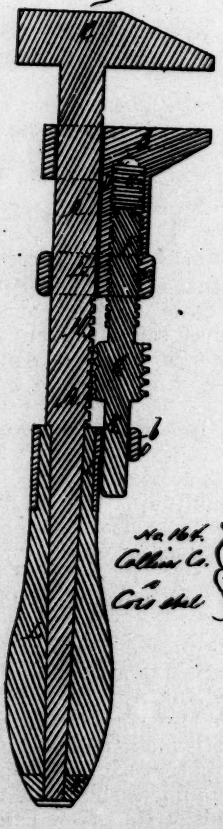



Fig 2.




No. 164.
Collier Co.
&
Cox et al
p. 115.

holes made through it, is very much weakened thereby and is liable to break off at or near such, all of which is avoided by my arrangement of parts. Therefore I do not claim the mere addition of auxiliary screws to the wrench of the said Coes and made with threads reversed in pitch with respect to the pitch of those of the primary screws, but what I do claim is arranging the nut G between
115 the two male screws F and K in connection with applying the auxiliary female screw N and its support I with reference to the handle and shank, substantially as specified.

In testimony whereof I have hereunto set my signature March 28, 1857.

GEO. C. TAFT.

Witnesses:
W. A. WILLIAMS.
HENRY W. MASON.

COMPLAINANT'S EXHIBIT TAFT'S 1858 PATENT. W. H. M., Special Examiner.

*Letters Patent of the United States No.* 20379, *Granted George C. Taft May* 25, 1858.

Improved wrench.

*Specification.*

To all persons to whom these presents shall come:

Be it known that I, George C. Taft, of Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful or improved screw wrench; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

(Here follows diagram marked p. 115.)

Figure 1 is a side view, and

Figure 2 a longitudinal section of the wrench.

In such drawings A denotes the shank of the wrench; B, the movable jaw; C, the fixed or hammer jaw; D, an extension of or projection from the jaw B; E, a slider fastened to the said extension and embracing the said shank; L is the handle and N the holding nut thereof.

The part D is provided with a female screw, *a*, to which a male screw, F, is adapted and arranged so as to be at the edge of and parallel to the shank A.

Affixed to the lower end of the screw F is a worm gear or rosette,
G, which is made to screw into a screw rack, H, formed in or
116 on the adjacent edge of the shank A and above the ferrule I of the handle, as shown in the drawings. The directions of the helix threads of the screw F and the worm rosette G are in reverse of one another—that is, one inclines to the right and the other

to the left—one screw being a right-threaded screw, while the other is what is generally termed a left-threaded screw.

The edges of the thread of the rosette are milled, so as to render it easy for a person to turn the rosette by the application thereto of the thumb of one of his hands when grasping the handle. When the rosette is put in revolution its screw, acting on the rack, will move longitudinally either towards the ferrule I or the jaw C and so as to move the jaw B on the shank. At the same time the screw F will be put in revolution, and by its operation in its female screw *a* it will contribute to move the jaw B, and thus by the compound action of the screws, the worm rosette, and the rack the motion of the movable jaw will be accelerated to what it would be were but one male and one female screw employed.

In order to prevent the threads of the rosette from being forced out of the rack by any great strain tending to force the movable jaw away from the hammer jaw, the rosette is provided with a cylindrical extension or slider, K, which projects downward from it and in line of its axis and through a cylindrical bearing or hole, *b*, made through a projection, O, from the collar I. The said parts K and O, applied together and to the rosette and ferrule of the handle, contribute greatly to strengthen the wrench or prevent it from being injured or broken while in use. The slider K also serves to prevent the shank of the screw F from being bent while the wrench is in use.

In a wrench invented by me and patented on the 16th of June, 1857, to Henry W. Mason, my assignee, the male screw of the movable jaw has a male screw extending downward from its nut and working in a female screw made in a projection from the ferrule of the handle. As the nut has no screw cut upon it to work into a rack, the lower screw, although it may serve to strengthen the wrench, does not perform the function for which I employ the round or cylindrical slider K, the latter being combined with a worm and a rack (used on the wrench as described), and for the purpose
117 not only of maintaining the thread of the rosette in place in the rack, but to strengthen the parts or prevent breakage of the shank while the wrench is in use.

The great advantage of my present wrench over that invented by me and patented to Henry W. Mason is that the rosette and screw are combined in one piece, operate in the rack, and are arranged between the ferrule projection and the extension of the movable jaw, while the milled screw or rosette in this arrangement causes the strain on the movable jaw to be borne by the shank itself and not by any projection riveted thereto, and the handle, by not being subjected to such strain, is not liable to be forced off the shank; the further advantage of the bearing of the milled worm against the shank is secured at the same time.

From the above it will be seen that the object of my invention or improvement in a wrench having its movable jaw operated by two reversed male screws is to bring the strain of both the screws directly on the shank and not on either a projection riveted thereto or on a ferrule and wooden handle fixed on the shank; also to

prevent the disengagement of the rosette screw from the rack when the wrench is in use; and, furthermore, to prevent the upper screw from being bent, as it would be likely to be were such a disengagement to take place.

I do not claim a wrench having its movable jaw operated by two reversed male screws extending in opposite directions either from one another or from a rosette.

Nor do I claim a wrench in which the sliding jaw is operated by a single male screw rosette, working in a rack applied to the stationary jaw.

Nor do I claim a wrench having its sliding jaw operated by a single male screw, whose milled head enters a recess or notch made in the shank, and has a pivot extending from it and working in a step made in a projection from the handle, such being the construction of the wrench of Loring Coes as patented April 16, 1841. From this latter my improved wrench differs materially, inasmuch as it has two reversed male screws, and its rosette, instead of being stationary in other respects than being capable of being revolved, will move endwise with the screws when they revolve.

118 Furthermore, my improved wrench has the cylindrical slider K, so made as not only to revolve with the male screws, but move endwise with them and perform the function of maintaining the male screw rosette in connection with its screw rack at whatever distance the rosette may be from the projection O.

No such slider is found in Coes' wrench, because it is not necessary there, for in such there is no endwise movement of the screw and no worm rosette and rack to be maintained in connection. Coes' uses a pivot working in a cut or step, and both are so formed that no endwise motion of the pivot can take place.

But what I claim, in a wrench provided with two reversed male screws for removing its movable jaw, is arranging the lowermost screw, G, to work in a screw rack, H, on the shank A of the wrench, and providing the said screw with a cylindrical slider, K, extending below it and operating so as not only to turn around, but move longitudinally with the screw and in a socket piece, O, connected with the handle, the whole being substantially as described.

In testimony whereof I have hereunto set my signature this thirtieth day of October, A. D. 1857.

GEO. C. TAFT.

Witnesses:
JAMES H. BANCROFT.
JOHN GOULDING.

COMPLAINANT'S EXHIBIT HAYWARD'S 1858 PATENT. W. H. M., Special Examiner.

*Letters Patent of the United States No.* 21196, *Granted Francis D. Hayward Aug.* 17, 1858.

Improved Wrench.

*Specification.*

To all persons to whom these presents shall come:

Be it known that I, Thomas D. Hayward, of Malden, in the county of Middlesex and State of Massachusetts, have in-
119 vented certain new and useful improvements in wrenches, and that the following description, taken in connection with the accompanying drawings hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvements by which my invention may be distinguished from others of a similar class, together with such parts as I claim and desire to have secured to me by letters patent.

The figures of the accompanying plate of drawings represent my improvements.

(Here follows diagram marked p. 119.)

Figure 1 is a central vertical section of my improved wrench.

Fig. 2 is a horizontal section of the same, taken in the plane of the line A B, Fig. 1.

Wrenches as usually constructed consist of a single stem or shaft, on which the slide or lower half of the jaw moves.

The shaft, unless made very large and heavy, is very liable to become strained and bent, thereby weakening the wrench, preventing the parts from operating smoothly and the two parts of the jaw from meeting. My improvements consist in providing an additional stem or brace arranged parallel to the main shaft, the slide having its bearings and moving upon both the main shaft and the additional steam or brace. By this arrangement the main shaft cannot possibly be bent or strained, but is kept in its true position, whereby the slide or jaw will always move freely and truly upon the same and retain its parallel position to the head or upper part of the jaw.

*a a* in the drawing represents the head or upper part of the jaw of the wrench attached to the main shaft *b b*. *c c* is a stem or brace attached to the head *a a* and to the shaft *b b* by a screw, *d*, arranged parallel to the shaft. The slide *e e* plays upon both the shaft *b b* and the stem or brace *c c*, being actuated by a screw, *f*, as will readily be understood by inspection of Fig. 1.

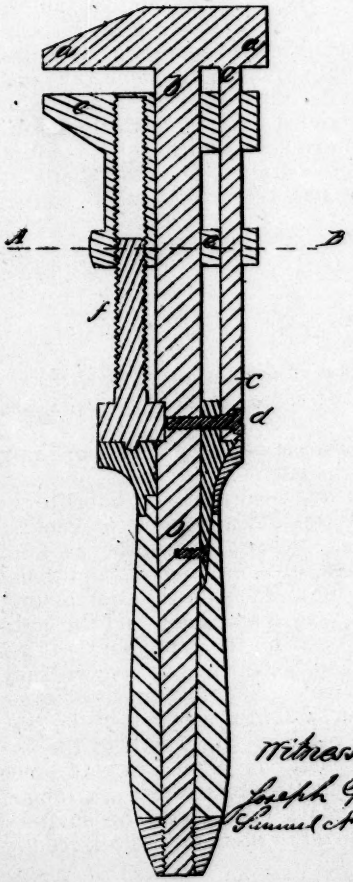
The stem or brace *c c*, it will be seen, serves to sustain and strengthen the main shaft *b b* and prevent its being bent, thereby

# F. D. Hayward,

## Nüt Wrench.

No. 21,196. Patented Aug. 17, 1858.

Fig. 1.




No. 164.
Collins Co.
Coes et al.
p. 119

Fig. 2.

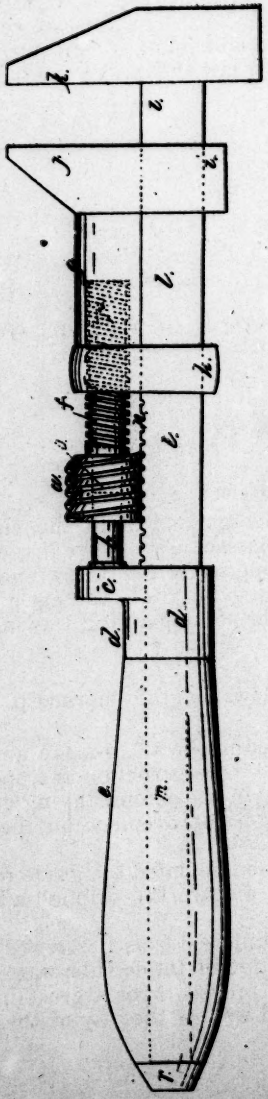
Witnesses:
Joseph Garrett
Samuel A. Piper

Inventor
Francis D. Hayward

# G. C. Taft,

## Wrench.

No. 23,798. Patented Apr. 26, 1859.



No. 164.
Collins Co.
v.
Coes et al.
} p. 120

James H. Bancroft
W. H. Taft

Inventor;
Geo. C. Taft.

ensuring the true play of the slide *e e* or lower half of the jaw and keeping the slide and head *a a* always parallel.

Having thus described my improvements I shall state my claim as follows:

120 What I claim as my invention and desire to have secured to me by letters patent is—

The wrench, constructed substantially as described—*i. e.*, combining with the head or upper jaw, when rigidly connected with its shank, a brace and screw arranged, respectively, on opposite sides of and parallel with the said shank for the purposes of insuring true play of the slide or lower jaw and of keeping the slide and head constantly parallel.

FRANCIS D. HAYWARD.

Witnesses:
JOSEPH GAVETT.
SAMUEL N. PIPER.

COMPLAINANT'S EXHIBIT TAFT'S 1859 PATENT. W. H. M., Special Examiner.

*Letters Patent of the United States No.* 23798, *Granted George C. Taft April* 26, 1859.

Improved Wrench.

*Specification.*

To all whom it may concern:

Be it known that I, George C. Taft, of the city of Worcester, in the Commonwealth of Massachusetts, have invented a new and useful improved double-acting screw and rack wrench; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, which represent a side view of my improved device.

(Here follows diagram marked p. 120.)

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

The device represented in the accompanying drawings and in the following description is an improvement on the patent granted to me May 25, 1858.

121 In the device then patented the guide rod *b* was one piece with the rosette *a*, and worked through a hole in a projection of the ferrule *d*.

Thus the end of the guide rod *b*, as it screwed through and projected beyond the projection of the ferrule, was exposed and liable to be bruised; besides, it proved to be a great inconvenience, as it came in contact with and was in the way of the hand holding the handle *c*.

It is the object of the device now presented to overcome the difficulties above mentioned.

In the device which is the subject of this application, and which is represented in the accompanying drawings, the guide rod *b* is one piece with the ferrule *d*, extending from the projection *c* of the said ferrule into a corresponding hole, *o*, in the centre of rosette *a*, which latter is one piece with the screw rod *f*.

The outside of the rosette *a* is screw-threaded and works into a rack, *n*, in the surface of shank *l*.

The screw rod *f* works in the female screw *p*, in the sliding jaw *g j*, the latter being connected to the shank *l* by means of collars *h i*.

The stationary jaw *k* forms the front end of the shank *l*, while the rear portion of the shank is formed into a rod, *m*, which passes through the ferrule and handle and is fastened at the rear end of the handle by a nut, *p*.

From the above it will be seen that no ends of the guide rod *b* are exposed, and that it can never interfere with the hand taking hold of the handle.

The guide rod *b* is of sufficient length so that its end will be yet within the hole of the rosette *a* when the jaw *j* has been moved up until in contact with the jaw *k*.

The length of the screw rod *f* is also such that it can never become detached from the female screw within the jaw *g j*.

Thus it will be seen that all the pieces are permanently connected, and that it is impossible for them to become disconnected.

The double-screw device *f* and *a n* serves to accelerate the motion of the jaw *g j*, because, supposing the inclination of the threads of both screws *a* and *f* to be the same, it is evident that
122 with each turn of the rosette the jaw will move twice as far if only one screw was used.

Of course, the screw threads of *a* and *f* run against each other.

Having thus described my improved double-acting screw-and-rack wrench, what I claim therein as new, and desire to secure by letters patent, is—

The screw-threaded rosette *a*, with its hole *o*, in combination with the stationary guide rod *b*, rack *n*, traversing male screw *f*, and sliding jaw *g h*, with its female screw *p*, substantially as and for the purposes set forth.

GEO. C. TAFT.

Witnesses:
JAMES H. BANCROFT.
WM. H. TAFT.

Ex'd: F. M. F. E.

COMPLAINANT'S EXHIBIT "APPLICATION FOR TAFT'S 1863 PATENT."
W. H. M., Special Examiner.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the files of this office of the file wrapper, contents, and drawing in the matter of the letters patent granted George C. Taft, ass'or to Thomas H. Dodge, Nov. 10, 1863, No. 40590, for improvement in wrenches.

In testimony whereof I, W. H. Doolittle, acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this eighth day of April, in the year of our Lord one thousand eight hundred and seventy-nine, and of the Independence of the United States the one hundred and third.

[SEAL.] W. F. DOOLITTLE,
*Acting Commissioner.*

123 WASHINGTON, D. C., *April* 30, 1862.

Hon. Com'r of Patents.

SIR: I hand you herewith the application of Geo. C. Taft for a patent for an improvement on wrenches.

Respectfully, THOS. H. DODGE,
*Attorney for Applicant.*

*Petition.*

To the Commissioner of Patents:

The petition of George C. Taft, of Worcester, in the county of Worcester and State of Massachusetts, respectfully represents—

That your petitioner has invented a new and useful improvement in wrenches which he verily believes has not been known or used prior to the invention thereof by your petitioner. He therefore prays that letters patent of the United States may be granted to him therefor vesting in him and his legal representatives the exclusive right to the same upon the terms and conditions expressed in the act of Congress in that case made and provided, he having paid thirty-five dollars into the Treasury and otherwise complied with the requirements of said act.

He further prays that you will recognize as his agent and attorney Thomas H. Dodge, who he hereby authorizes and empowers to alter and modify the within specification and claim; to receive the patent when granted; to receive and receipt for all moneys which he may be entitled to withdraw from the Treasury, and, in general, to demand and exercise all the rights and privileges that he would be entitled to if personally present and acting in the premises.

GEO. C. TAFT.

*Oath.*

STATE OF MASSACHUSETTS, *County of Worcester,* } ss:

On this eighth day of November, A. D. 1860, before the subscriber, a justice of the peace in and for said county, personally ap-
124 peared the within-named George C. Taft and made solemn oath that he verily believes himself to be the original and first inventor of the within-described improvement in wrenches, and that he does not know or believe that the same was ever before known or used, and that he is a citizen of the United States.

Before me—

JAMES H. BANCROFT,
*Justice of the Peace.*

To all whom it may concern:

Be it known that I, George C. Taft, of Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful improvement in screw wrenches; and I do hereby declare that the following is a clear, full, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

(Here follows diagram marked p. 124.)

Fig. 1 represents a perspective view of my improvement, and

Fig. 2 represents a detached view of the "rosette" and therewith connected.

Similar letters of reference indicate like parts in the drawings.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

A is the shank of my wrench; B, the stationary jaw, and B′ the sliding jaw through the part B″ of which the operating screw C works.

D is the "rosette," formed in one piece, as shown, with the screw *c* and journaled at *a* to ferrule E.

Parallel grooves *d d d* are cut in the shank A, in which projections *e e e* of the rosette turn.

The projections *e e e* are made parallel to each other and are beveled on one side, as shown, to lessen the friction of the rosette upon turning.

The operation is as follows: To adapt the opening between the jaws to the size of the object to be clasped thereby the operator turns the rosette to the right or left, as the size of the object will in-
125 dicate, which will turn the screw in the part B″ of the sliding jaw B′, and, as to the way turned, will increase or diminish the distance between the jaws as required.

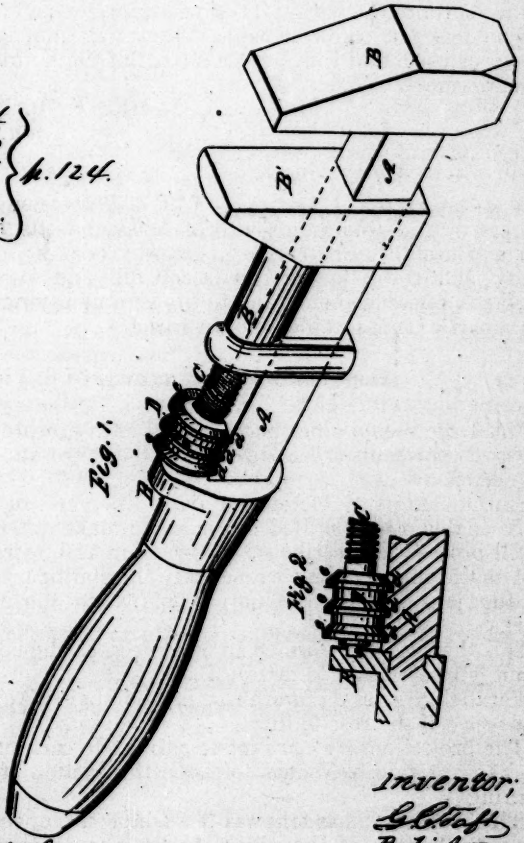
The advantage of having a "rosette" of this form is that it sustains the pressure which would otherwise come on the ferrule E,

# G. C. Taft,

## Wrench.

No. 40,590. Patented Nov. 10, 1863.

No. 164. Collins Co. v. Cox et al. } p. 124.




Witnesses;
W. Yorke Ar. Lee
A. Cordiceano

Inventor;
G. C. Taft
By his Attorney
Thomas H. Dodge

which pressure is often so great as to break it off or displace it, thus rendering the whole wrench useless.

Having thus described my improved wrench,* what I claim and desire to secure by letters patent is—

The combination of the parallel grooves *d d d* in the shank A with the corresponding projections *e e e* on the rosette D,† substantially as and for the purposes set forth.

In witness whereof I have hereunto subscribed my name.

GEO. C. TAFT.

In presence of—
JAMES H. BANCROFT.
JOHN GOULDING.
ADDISON P. BROWN.
TIMOTHY F. TAFT.

WASHINGTON, D. C., *May* 30, 1862.

Honorable Commissioner of Patents.

SIR: In the matter of my application for a patent for an improved screw wrench I have to request that the following amendments may me made in the specification, viz:

Insert after word "wrench" in the 6th line of the 3d page of the specification the words (A) "I am aware that the rosette of screw wrenches has heretofore been constructed with a screw thread, and I do not claim such device, but."

Also insert the following after the letter of reference "D" in the 12th line, same page (B): "The same not being spiral, but running at right angles to the line of motion of the jaw, thus relieving the ferrule from all strain, while retaining the rosette in the same relative position as respects the handle of the wrench."

126

Respectfully,

GEO. C. TAFT,
By his attorney, THOS. H. DODGE.

U. S. PATENT OFFICE, *May* 31, 1862.

SIR: Your specification of alleged improvement in wrenches has been examined. The wrench of Loring Coes, patented April 16, 1841, is believed to embrace substantially the devices claimed as your improvement. Your application is therefore rejected.

Respectfully yours,

JAYNE, 5 B.

Geo. C. Taft, Esq., care T. H. Dodge, Esq., Washington, D. C.

NASHUA, NEW HAMPSHIRE, *March* 30, 1863.

Honorable Commissioner of Patents.

SIR: My application for a patent for an improved screw wrench was rejected for the alleged reason that the "Coes wrench" presented a full anticipation of my alleged invention.

---

* Insert A in amendment filed May 30, 1862.
† Insert D in amendment filed May 30, 1862.

I was fully aware of the construction of the wrench to which I have been referred, and my invention was designed to obviate one very serious objection to said wrench.

The examiner seems to have overlooked this point, or at least does not appear to have understood the practical operation of the wrench to which I have been referred.

That the real point of difference may be clearly presented, and in a manner calculated to satisfy the office, I herewith present the affidavits of eleven able and competent machinists as to the relative merits of the wrenches.

I trust that a re-examination of the application in connec-
127 tion with the evidence presented in support of my claim for a patent will convince the office that I am entitled to a patent as prayed.

Respectfully,

GEO. C. TAFT,
By his attorney, THOS. H. DODGE.

We, the undersigned, practical mechanics, hereby certify that we have used the "Coes wrench" and have been familiar with it for twenty years, more or less, and in no instance have we ever seen the "Coes wrench" so constructed by having one groove in the main bar as to receive and retain the pressure of the jaw in s'd groove when in use.

The groove was of slight depth. The face of the ferrule, being flush with the lower end of the groove in the bar, caused the end or face of the rosette to bear with full force upon the face of the ferrule when the wrench was in use, and the pressure thus thrown against the ferrule was liable to crowd the ferrule back and crush the wood handle, thereby causing the bearing of the rosette to become disconnected from the ferrule, and so far deranging the working parts of the wrench that it could not be used except at the expense of a new handle. This feature in the "Coes wrench" was a great defect, and was where it usually failed first.

We have carefully examined the wrench exhibited to us by Mr. George C. Taft and consider the improvement made by him makes the wrench much more substantial and obviates the great defect (above described) in the "Coes wrench." The three grooves in the bar and the corresponding parts on the rosette which operate as teeth in the grooves take all the strain from the ferrule and confine it to the bar.

This arrangement is a sure preventative against the disconnecting of the rosette from the ferrule or the destruction of the wooden handle.

Again, the wide groove to receive the rosette in the bar of the "Coes wrench" may be considered as objectionable, having a tendency to weaken it. This objection is obviated in the "Taft wrench" by increasing the number of grooves, thereby extending
128 the resistance over a greater area, whilst at the same time the formation of the rosette with three parallel teeth furnishes to the operator a firmer hold with the thumb and enables him to operate the rosette with more ease than the "Coes wrench."

This improvement makes a much more desirable wrench and much less liable to get out of order and is worthy of protection.

Worcester, Mass., September, 1862.

CLARENDON WHEELOCK, *Inventor.*
WM. T. MENIFIELD, *Machinist.*
ALONZO WHITCOMB, *Machinist.*
TOWNE & HARRINGTON, *Machinists.*
T. F. TAFT, *Machinist.*
CHAS. B. LONG, *Machinist.*
A. P. BROWN, *Machinist.*
GEORGE F. RICE, *Machinist.*
J. C. STODDARD,
*Machinist and Inventor.*
JOHN GOULDING, *Inventor.*
O. P. RICHARDSON, *Machinist.*

COMMONWEALTH OF MASSACHUSETTS, *Worcester,* } *ss:*

MARCH 26, 1863.

Personally appeared Wm. T. Menifield, Alonzo Whitcomb, T. F. Taft, Geo. F. Rice, J. C. Stoddard, and O. P. Richardson and severally made oath that the statement above subscribed by them was true.

Before me—

JAMES H. BANCROFT,
*Jus. Pacis.*

COMMONWEALTH OF MASSACHUSETTS, *Worcester,* } *ss:*

MARCH 27, 1863.

Personally appeared Clarendon Wheelock, Chas. B. Long, and A. P. Brown and severally made oath that the statement above subscribed by them was true.

Before me—

JAMES H. BANCROFT,
*Jus. Pacis.*

129 COMMONWEALTH OF MASSACHUSETTS, *Worcester,* } *ss:*

MARCH 28, 1863.

Personally appeared John Goulding and made oath that the statement above subscribed by him is true.

Before me—

JAMES H. BANCROFT,
*Jus. Pacis.*

U. S. PATENT OFFICE, *April* 13, 1863.

SIR: Your specification of alleged improvements in wrenches has been again examined and the affidavits submitted duly considered. The question occurs, Wherein consists the invention for which a patent is now sought? Certainly not in the rosette attached to the screw nor in the notch in the shank in which the periphery of the rosette revolves, for all this is plainly seen in Coes' patent to which you have been referred. Your rosette has, it is true, three projecting flanges, which take into as many distinct notches, while that of Coes consists of one flange and one notch; but this, being a mere duplication of parts, is no invention in the patentable sense of the term. You seem to lay stress upon the fact that the flanges in your rosette are not spiral, but that they are at right angles to the line of motion of the jaw; but such also is the case in Coes'—that is to say, the two surfaces of the rosette which communicate the strain or thrust of the jaw to the shank revolve in planes perpendicular to the line of motion of the jaw precisely the same as your own. Great importance is also attached to the circumstance that, by virtue of the flanges on your rosette and the corresponding notches in the shank, the whole thrust of the jaw is communicated directly to the shank, and consequently that the ferrule upon the end of the handle is relieved entirely from any such strain. This, though not specially adverted to, is equally the function of the rosette and notch in Coes' wrench. Both the model and the drawing in the latter case show that the notch in the shank is not cut down flush with the end of the ferrule, but sufficiently far in front of it to prevent the possibility of contact of the rosette with the ferrule, and that such purpose was probably intended is further
130 evidenced by some remarks of his in his specification as first presented, but which do not appear in the patent, to the effect that, for retaining the rosette in position, a fillet may be projected from the surface of the shank and fitted to work in a corresponding groove in the periphery of the rosette.

The office is firmly of the opinion that there is nothing new in the invention as described. Your application is therefore again rejected.

Respectfully yours, JAYNE.

George C. Taft, care Thos. H. Dodge, Nashua, N. H.

NASHUA, N. H., *Sept.* 15, 1863.

Hon. D. P. Holloway, Commissioner of Patents.

SIR: I hereby appeal from the decision of the examiner refusing me a patent for improved wrench to the examiners-in-chief.

My application was finally rejected by the examiner on the 13 day of April last and for reasons which I allege are untenable.

In the first place, no notice appears to have been taken of the numerous affidavits filed in support of my claim to a patent. These affidavits were from men eminent in the various branches of

the mechanic arts and who had been for years familiar with the use and peculiar construction of Coes' wrench, upon which my application had been rejected by the examiner in charge.

In the official letter of April 13, 1863, the examiner still adheres to the rejection, and states that in Coes' wrench "both the model and drawings * * * show that the notch in the shank is not cut down flush with the end of the ferrule, but sufficiently far in front of it to prevent the possibility of contact of the rosette with the ferrule."

In regard to the above I feel constrained to allege that the examiner must be mistaken.

I have recently visited the Patent Office and carefully examined the model and drawings in Coes' case, but could not come to any other conclusion than that the examiner was certainly in
131 error, not only as respects the above, but in regard to what he says relative to "some remarks of his" (Coes) "in his specification as first presented."

A careful examination of the specification referred to will show that the examiner has been mistaken, and that the alleged allusion to the rosette, as stated by the examiner, is wanting.

In order to present the matter clearly to the minds of the examiners-in-chief I have obtained and herewith present the additional affidavits of Wheelock and others, together with one of Coes' wrenches.

These affidavits and wrench speak in a stronger language than anything that I can say in support of my claim for a patent.

My claim is limited to a special improvement in wrenches, and one, too, which has never before been used by Coes or any one else but myself.

It is clearly defined, and no one can deny but what it possesses novelty and is, in fact, a great improvement over the Coes wrench.

As my attorney, while in Washington, was allowed an opportunity of explaining in person to one of the examiners-in-chief the merits of my invention, I will not here restate and go over the various points again, but submit the case to the impartial judgment of the honorable board of appeal.

Very respectfully, GEO. C. TAFT,
By his attorney, THOS. H. DODGE.

To all whom it may concern:

Know ye that we, the undersigned, practical machinists and mechanics, in our several avocations have used the "L. & A. G. Coes patent wrench" (formerly patented by "Loring Coes") for the past fifteen years, or more or less, and, being familiar with the construction of s'd wrench, have no hesitation in saying the groove cut in the bar (to receive the rosette of the male screw that enters the sliding jaw and causes the same to traverse on the bar) has uniformly been made substantially as the specimen wrench to which this affidavit is attached.

132 The face of the ferrule being flush with the rear of the groove in the bar, consequently all the resistance or strain which the sliding jaw encountered was conveyed to and received by the ferrule,

the rear shoulder in the groove affording very trifling resistance, when we consider the freedom that must necessarily be given to the parts to enable them to operate with facility, the inevitable tendency, and the result from the labor these wrenches are required to perform is to force the ferrule back upon and crush the wood handle and cause the pivot upon the rosette to become disengaged from the ferrule.

Having carefully examined and tested the wrench constructed by George C. Taft, we find such improvement therein as we feel confident will remedy the serious defects before referred to as pertaining to the "Coes wrench" and consider them worthy of protection.

Worcester, Mass, Sept., 1863.

JOHN GOULDING,
*Inventor and Machinist.*
CLARENDON WHEELOCK, *Machinist.*
T. F. TAFT, *Machinist.*
J. WALLACE WOODWARD, *Machinist.*
A. L. DOANE, *Machinist.*

COMMONWEALTH OF MASSACHUSETTS, *Worcester*, } ss:

SEPT. 5, 1863.

Personally appeared John Goulding, Timothy F. Taft, J. Wallace Woodward, and A. L. Doane and severally made oath that the within certificate subscribed by them was true.

Before me—

JAMES H. BANCROFT,
*Justice of the Peace.*

COMMONWEALTH OF MASSACHUSETTS, *Worcester*, } ss:

SEPT. 7, 1863.

Personally appeared Clarendon Wheelock and made oath that the within certificate subscribed by him was true.

Before me—

JAMES H. BANCROFT,
*Justice of the Peace.*

133 *Application of G. C. Taft for a Patent for an Improvement in Screw Wrenches.*

On appeal to the examiners-in-chief.

U. S. PATENT OFFICE, *Sept. 29th*, 1863.

The object of the applicant in this case is to so construct and attach the rosette of the screw which adjusts the movable jaw as that it shall not be forced back against the ferrule in which the end of said screw turns when the wrench is being used, but that the strain shall fall on a series of notches in the shank into which corresponding projections of the rosette protrude.

After describing the manner of constructing his wrench the applicant presents his claim in the following terms, viz: "What I claim and desire to secure by letters patent is: The combination of the parallel grooves *d d d* in the shank A with the corresponding projections *e e e* on the rosette D, the same not being spiral, but running at right angles to the line of motion of the jaw, thus relieving the ferrule of all strain while retaining the rosette in the same relative position as respects the handle of the wrench, substantially as and for the purposes set forth."

The questions in this case seem to be these: First. Does the applicant attain the object aimed at, which is to prevent the force of the thrust of the adjusting screw or its rosette from falling upon the ferrule when the wrench is being used, which is an important matter, as every skilful artist using it must know? Second. If he does attain that object is he anticipated in that matter?

In regard to the first question it seems, we think, to be perfectly clear that a wrench made according to the specification of the applicant would subject the ferrule to no thrust at all, all that being received upon the notches in the shank in which the corresponding projections of the rosette are located. This is not denied by the examiner in charge, but rather admitted. The first question is, therefore, answered in the affirmative.

In regard to the second, to wit, Is the applicant anticipated in regard to relieving the ferrule from the thrust referred to? the examiner, in admitting that the wrench of the applicant does prevent the strain from falling upon the ferrule, says also that it is equally
134 the function of the rosette and notch in Coes' wrench, patented April 16, 1841, which he refers to as anticipating the applicant to relieve the ferrule from this strain, and he goes on to say that both the model and drawings in Coes' case show that the notch in the shank is not cut down flush with the end of the ferrule, but sufficiently far in front of it to prevent the possibility of contact of the rosette with the ferrule; in this he is manifestly in error. Coes says in his specification this: "The lower side of the nut G rests upon the top of a piece of metal, I, which clasps or is applied to and projects from the shank A, as seen in the drawing." Upon referring to said drawing we find that the nut G is the rosette and the piece of metal I is the ferrule, or, if made separate from the ferrule, is held in place and supported by it, which is even worse than if formed upon it. It is clear, then, as the rosette rests upon the ferrule in Coes' wrench either mediately or immediately that the thrust must be received upon it; this any machinist who is acquainted with Coes' wrench well understands. Upon this point we have before us in this case the affidavits of ten experts, who all unite in the following, viz:

"We, the undersigned, practical mechanics, hereby certify that we have used the Coes wrench and have been familiar with it for twenty years, more or less, and in no instance have we ever seen the Coes wrench so constructed by having one groove in the main bar as to receive and retain the pressure of the jaw in said groove when in use." The groove was of slight depth. The face of the fer-

rule, being flush with the lower end of the groove in the bar, caused the end or face of the rosette to bear with full force upon the face of the ferrule when the wrench was in use, and the pressure thus thrown against the ferrule was liable to crowd the ferrule back and crush the wood handle, thereby causing the bearing of the rosette to become disconnected from the ferrule and so far deranging the working parts of the wrench that it could not be used except at the expense of a new handle. This feature of the Coes wrench was a great defect and was where it usually failed first.

"We have carefully examined the wrench exhibited to us by Mr. George C. Taft and consider the improvement made by him makes the wrench much more substantial and obviates the great defect (above described) in the Coes wrench. The three grooves in
135 the bar and the corresponding parts of the rosette which operate as teeth in the grooves take all the strain from the ferrule and confine it to the bar."

It is not easily seen how the examiner should fall into the error of supposing that in Coes' wrench "the construction was such that it was not possible for the rosette to come in contact with the ferrule," when Coes himself says in his specification, as we have already mentioned, that the rosette or lower side of the nut G, which is the rosette, rests upon the top of a piece of metal, I, which is the ferrule, as we have already seen, and in the face, too, of the affidavits of ten experts in regard to this very point. We submit that it is giving rather undue weight to very faint dotted lines of a drawing and an exceedingly doubtful feature of an imperfect model to allow them to overbalance the positive and clear assertion of the inventor himself in his own specification, backed up as it is, too, by the affidavits of ten experts, as above stated.

The examiner says, speaking of the idea of preventing contact between the rosette and ferrule, "that such purpose was probably intended is further evidenced by some remarks of his (Coes') in his specification as first presented, but which do not appear in the patent, to the effect that for retaining the rosette in position a fillet may be projected from the surface of the shank and fitted to work in a corresponding groove in the periphery of the rosette." Now, it is clear to us that the language is no evidence at all of any such purpose as that alluded to, even in the absence of the positive declaration of Coes in his specification in regard to the nut G or rosette resting on the piece I or ferrule, which is certainly perfectly conclusive, for we must remark that it is necessary in this wrench to prevent by some means or other the rosette receding from the ferrule and it and the screw on which it is placed, together with the movable jaw, all dropping down towards the stationary jaw, which they would certainly do when the wrench was held with the handle upwards, unless the rosette projected into a notch in the shank or a fillet projected from the shank into a groove in the periphery of the rosette or some equivalent device was adopted to prevent it, and this is
the object and the only object of the projection of the rosette
136 into the notch in the shank and the proposed projection of the fillet from the shank into a groove in the periphery of the rosette

in the case referred to, and they are or would be perfectly adequate to this office, while every practical mechanic who is familiar with the said wrench and its use knows full well that to resist the great strain or thrust backwards towards the handle incident to the use of the wrench the fillet alluded to and the small back face (against which said thrust must come) of the notch in the shank for the reception of the rosette are entirely inadequate.

In view, therefore, of the whole matter as it appears to us (and one member of our board has been very familiar for many years with Coes' wrench, knowing by long experience the truth of what the affidavits in this case assert in regard to the defects thereof) we are clearly of the opinion that the examiner in deciding that there is nothing new in the invention of the applicant as described and in rejecting the same is in error, and the said decision is reversed.

T. C. THEAKER,
J. J. COOMBS,
*Examiners-in-Chief.*

$\frac{158}{1860}$ 996 Jayne. 82

Patent Office.

Inventor, Geo. C. Taft.
Invention, wrench.
Date of payment, Oct. 24, 1863.
Fee, twenty dollars.
Solicitor, Thos. H. Dodge.
No. 40590.

George C. Taft, ass'or to Thomas H. Dodge, of Nashua, N. H., of Worcester, county of Worcester, State of Massachusetts.

Wrenches.

Rec'd April 30, 1862; petition, affidavit, specification, two drawings, model.
Cert. dep.,—.
1. Cash, $15, April 30, 1862.
1. Add'l fee, cash, $20, Oct. 24, 1863.
137 Examined, exam.-in-chief, Oct. 15, 1863.
2. Issue, Hayes, Oct. 19, 1863.
4. Patented Nov. 10, 1863.
Recorded vol. 155, page 389.
Circular, Oct. 19, 1863.
W. Th. Wash.
Spec. to T. H. Dodge, May 30, 1862.
Rejected May 30, 1862.
Rej. April 13, 1863.
Reissued June 1, 1869.
Improvement in wrenches.

COMPLAINANT'S EXHIBIT TAFT'S 1869 REISSUE PATENT. W. H. M., Special Examiner.

*Letters Patent of the United States Reissue No. 3483, Granted Loring Coes, of Worcester, Massachusetts, Assignee by Mesne Assignments of George C. Taft.*

Letters Patent No. 40590, dated November 10, 1863; Reissue No. 3483, dated June 1, 1869.

*Improvement in Wrench.*

Specification.

To all whom it may concern:

Be it known that George C. Taft, of the city and county of Worcester and Commonwealth of Massachusetts, did invent a new and useful improvement in screw wrenches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which—

(Here follows diagram marked p. 137.)

Figure 1 represents a perspective view of a "Coes wrench" having the said Taft's improvements applied thereto, and

Figure 2 represents sections of detached parts of the wrench shown in Fig. 1.

138 Similar letters of reference indicate like parts in the drawings.

To enable those skilled in the art to make and use the said invention I will describe the same more in detail.

The nature of the said Taft's invention relates to a mode of constructing the Coes wrench, patented April 16, 1841, in such a manner that the handle shall be relieved from the back thrust or strain of the rosette screw when the wrench is used. In my said wrench the rosette presses against the ferrule and the ferrule in turn against the front end of the handle, whereby the handle was often split and broken.

In the drawings—

A is the shank of the wrench;

B, the stationary jaw; and

B″, the sliding jaw through the part B″ of which the operating screw C works.

D is the rosette, formed in one piece with the screw C, as shown, and journaled at *a* to the ferrule E.

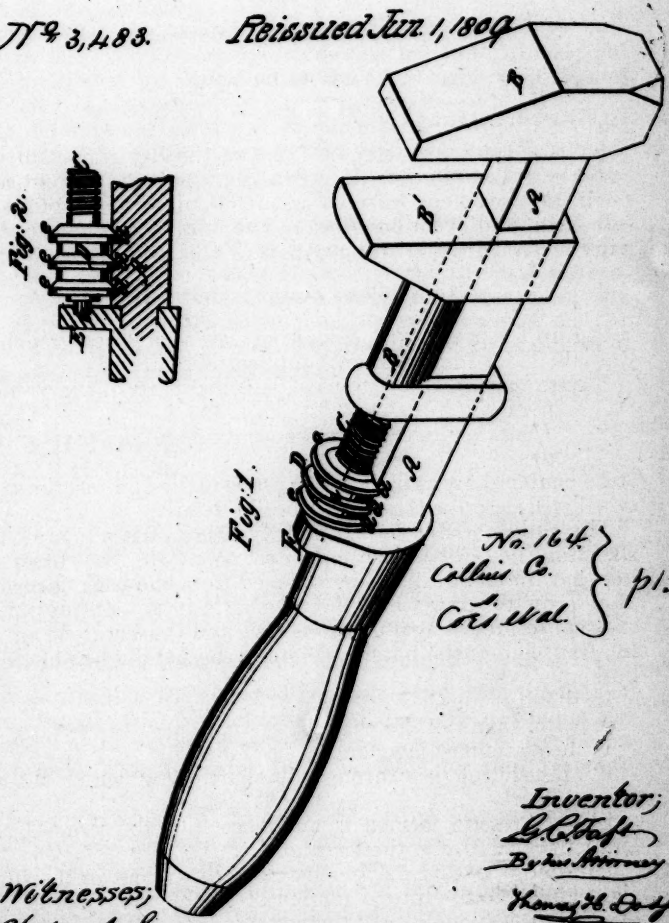
Parallel grooves *d d d*, in this instance, are cut in the shank A, at right angles to the line of motion of the movable jaw B″, in which grooves projections *e e e* of the rosette turn.

The projections *e e e* are made parallel to each other, and are beveled on one side, as shown, to lessen the friction of the rosette in turning.

# G. C. Taft.

## Wrench.

No. 3,483. Reissued Jun. 1, 1869.




No. 164.
Collins Co.
Co's et al.
p137

Inventor;
G. C. Taft
By his Attorney
Thomas H. Dodge

Witnesses;
W. Yorke Ar Lee
A. C. Widdicombe

The operation is as follows:

To adapt the opening between the jaws to the size of the object to be clasped thereby the operator turns the rosette to the right or left, as the size of the object may require, which will turn the screw in the part B″ of the sliding jaw B′, thereby increasing or diminishing, as the case may be, the distance between the jaws, as required.

The advantage of this improvement is that the pressure, which otherwise would come upon the handle, is transferred to the shank of the wrench, thus obviating one and really the only serious objection to the said Coes wrench.

I am aware that the rosettes or screw wrenches have been constructed with screw threads, and such devices are not claimed; but

What is claimed as the invention of the said George C. Taft, and desired to have secured by letters patent, is—

139 1. An improved Coes wrench, so constructed that the thrust or back strain of the rosette screw, when the wrench is used, shall be borne by the shank instead of the handle of the wrench, substantially as described.

2. A notch formed at right angles to the line of motion of the movable jaw in the shank of a Coes wrench for relieving the handle from the back strain of the rosette screw, substantially as described.

3. The combination of two or more parallel grooves, *d*, in the shank A with two or more corresponding projections, *e*, on the rosette D, the same not being spiral, but running at right angles to the line of motion of the jaw, substantially as described.

LORING COES.

Witnesses:
THOS. H. DODGE.
GEO. H. MILLER.

COMPLAINANT'S EXHIBIT "APPLICATION FOR TAFT'S 1869 REISSUE PATENT." W. H. M., Special Examiner.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the files of this office of the file wrapper, contents, and drawing in the matter of the reissue letters patent granted Loring Coes, ass'ee by mesne ass'ts of George C. Taft, June 1st, 1869, No. 3483, for improvement in wrenches.

In testimony whereof I, W. H. Doolittle, acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this eighth day of April, in the year of our Lord one thousand eight hundred and seventy-nine, and of the Independence of the United States the one hundred and third.

[SEAL.] W. H. DOOLITTLE,
*Acting Commissioner.*

140 *Petition.*

To the Commissioner of Patents:

The petition of Loring Coes, of Worcester, in the county of Worcester and State of Massachusetts, respectfully represents that George C. Taft did obtain letters patent of the United States for an improvement in wrenches on the tenth day of November, 1863; that the said patent has been assigned through mesne assignment to your petitioner, and that he now believes that the said patent is inoperative and invalid by reason of a defective or insufficient specification, which defect has arisen from inadvertence or mistake. He therefore prays that he may be allowed to surrender the same, and that new letters patent may issue to him for the same invention for the residue of the period for which the original patent was granted under the amended specification herewith presented, he having paid thirty dollars into the Treasury of the United States, agreeably to the requirements of the act of Congress in that case made and provided. He further appoints Thomas H. Dodge, of Worcester, Mass., with A. Pollok, associate, as his attorney, with full power to alter and amend said specification as he may deem proper, and to receive the patent when granted.

(50-cent stamp. Loring Coes, Apr. 15, 1869.)

LORING COES.

*Oath.*

STATE OF MASSACHUSETTS, *County of Worcester,* } *ss:*

On this fifteenth day of April, 1869, before the subscriber, a justice of the peace in and for said county, personally appeared the within-named Loring Coes and made solemn oath that he verily believes that, by reason of an insufficient or defective specification, the aforesaid patent is not fully valid and available to him, and that the said error has arisen from inadvertence, accident, or mistake and without any fraudulent or deceptive intention, to the best of his knowledge or belief, and that he verily believes the said George C. Taft to be the original and first inventor of the within described and claimed improvements in wrenches, and that he does not
141 know or believe that the same was ever before known or used prior to the invention thereof by said Taft.

THOS. H. DODGE.

To all whom it may concern:

Be it known that George C. Taft, of the city and county of Worcester and Commonwealth of Massachusetts, did invent a new and useful improvement in screw wrenches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which—

Fig. 1 represents a perspective view of a "Coes wrench" having the said Taft's improvements applied thereto, and

Fig. 2 represents sections of detached parts of the wrench shown in Fig. 1.

Similar letters of reference indicate like parts in the drawings.

To enable those skilled in the art to make and use the said invention I will describe the same more in detail.

The nature of the said Taft's invention relates to a mode of constructing the Coes wrench, patented April 16, 1841, in such a manner that the handle shall be relieved from the back thrust or strain of the rosette screw when the wrench is used. In my said wrench the rosette presses against the ferrule and the ferrule in turn against the front end of the handle, whereby the handle was often split and broken.

In the drawings A is the shank of the wrench; B, the stationary jaw, and B′ the sliding jaw through the part B″ of which the operating screw *c* works. D is the rosette, formed in one piece with the screw C, as shown, and journaled at *a* to the ferrule E.

Parallel grooves *d d d*, in this instance, are cut in the shank A (at right angles to the line of motion of the movable jaw B′), in which grooves projections *e e e* of the rosette turn.

The projections *e e e* are made parallel to each other, and are beveled on one side, as shown, to lessen the friction of the rosette in turning.

The operation is as follows:

To adapt the opening between the jaws to the size of the object to be clasped thereby the operator turns the rosette to the right
142 or left, as the size of the object may require, which will turn the screw in the part B″ of the sliding jaw B′, thereby increasing or diminishing, as the case may be, the distance between the jaws, as required.

The advantage of this improvement is that the pressure, which otherwise would come upon the handle, is transferred to the shank of the wrench, thus obviating one and really the only serious objection to the said Coes wrench.

I am aware that the rosettes of screw wrenches have been constructed with screw threads, and such devices are not claimed; but what is claimed as the invention of the said George C. Taft, and desired to have secured by letters patent, is—

1. An improved Coes wrench, so constructed that the thrust or back strain of the rosette screw, when the wrench is used, shall be borne by the shank instead of the handle of the wrench, *substantially as described.

2. A notch [running] *formed* at right angles to the line of motion of the movable jaw in the shank of a Coes wrench for relieving the handle from the back strain of the rosette screw, *substantially as described.

3. The combination of two or more parallel grooves, *d*, in the shank A with two or more corresponding projections, *e*, on the

---

*The words "substantially as described" underlined, and in connection therewith "T. H. Dodge, May 21," 1869, written in the margin.

The word between brackets [ ] erased and the word between stars * * interlined.

rosette D, the same not being spiral, but running at right angles to the line of motion of the jaw, substantially as described.

LORING COES.

Witnesses:
THOS. H. DODGE.
GEO. H. MILLER.

U. S. PATENT OFFICE,
WASHINGTON, D. C., *May* 13, 1869.

Loring Coes, care A. Pollok, Washington, D. C.

SIR: Please find below the decision of the examiner in charge in the matter of your application for a reissue of patent No. 143 40590, dated the tenth day of November, 1863, for wrenches, and issued to George C. Taft, ass'or to Thos. H. Dodge, filed April 19, 1869.

Very respectfully,

——— ———,
*Commissioner.*

EXAMINER'S ROOM No. 9.

The application above referred to has been examined. The statute providing for the surrender of a patent and the reissuing of the same is as follows: "Whenever it (the patent) shall be inoperative or invalid by reason of a defective or insufficient description or specification or by reason of the patentee claiming in his specification as his own invention more than he had a right to claim as new, if the error has arisen by inadvertency, accident, or mistake, it shall be lawful for the Commissioner," etc.

The original application on which a patent was granted and which is now sought to be reissued was prepared by an able attorney; it was twice rejected by the examiner in charge for want of novelty, appealed to the examiners-in-chief, and by them allowed. The invention was clearly and definitely set forth and distinctly claimed.

It is now sought in this application for a reissue, by the very broad and indefinite form of the first and second claims, to so expand the original patent, which was for a specific device clearly and distinctly set forth and claimed, as to make it not only cover the original improvement as claimed, but which, if granted, would enable the patentee to suppress all subsequent inventions, however distinct, which would produce the same result.

The first and second claims as presented are met by the patent of Loring Coes, April 16, 1841, in which we find the following language: "The screw F has a milled nut, G, on or near its lower end, which, when the screw is placed in position, passes into a small notch, H (represented by dotted lines), formed or cut in the side of the shank." If we rely on the description setting forth the invention as stated in the specification, then Coes' patent anticipates the first and second claims. The applicant is fully protected in the subject-matter of his third claim in the original patent.

The United States Supreme Court, in the decision in the case of Burr *v.* Duryee and others, censure the granting of such claims

144 in reissue in the following language: "We have no leisure for further development of this novel form of patent, or how, by the use of general and abstract terms, the specification is made so elastic that it may be construed to claim only the machine, or so expanded as to include all previous or future inventions for the same purpose.

"The surrender of valid patents and the granting of reissued patents thereon with expanded or equivocal claims, where the original was clearly neither 'inoperative nor invalid' and whose specification was neither 'defective or insufficient,' is a great abuse of the privilege granted by the statute and productive of great injury to the public. This privilege was not given to the patentee or his assignee in order that the patent may be rendered more elastic or expansive and therefore more available for the suppression of all other inventions."

The application for reissue as presented, in view of the foregoing, must be rejected.

EDWARD BEBB, *Examiner.*

WASHINGTON, D. C., *May* 20, 1869.

Hon. Commissioner of Patents.

SIR: The official letter in the matter of the application of Loring Coes for reissue of the patent granted to Geo. C. Taft, assignor, etc., has been received and duly considered.

The examiner has undoubtedly misapprehended the character of the invention claimed.

A simple traverse slot or notch in the shank for the reception of the rosette is not claimed *per se*, and hence the citing of the original Coes wrench as an answer to the application for reissue is giving an insufficient reason for the action of the office in not granting the reissue as prayed.

It is true that the original Coes wrench shows a rosette fitted in a slot or notch cut in the shank, but it is equally true that the rosette in said wrench rests against the ferrule when the wrench is used, and as the ferrule is held in place by the handle the back strain or thrust is borne by the handle when the wrench is used.

145 This construction has ever been regarded as a serious and really the only serious objection to the original Coes wrench, and it was to remedy just this objection that Mr. Taft made or devised the improvement now in question.

The position of the examiner in assuming that the construction of the Taft wrench is found in the original Coes wrench is controverted by the sworn statement of the inventor, Loring Coes, himself, and also by a large number of able machinists who have been fully advised in reference to the character and construction of the Coes wrench from its first introduction into use.

Still, again, the board of examiners have heretofore decided that the position of the examiner now assumed is wholly inconsistent with the facts in case. See their decision referred to in the official letter.

So much for the Coes wrench as an answer to the app'l.

The other ground assumed by the examiner is alike untenable and actually at variance with the opinion of the court in the very case cited in support of the refusal of the application on general grounds.

The examiner relies on the opinion of the court in the case of Burr *v.* Duryee and others.

An examination of this decision shows that the claims in the application of Mr. Coes for a reissue of the Taft patent are in perfect keeping with the expressed views of the court in said case instead of being in contravention thereof.

The Taft invention was an improvement on the original Coes wrench and is so claimed. There can be no doubt on this point.

What was the condition of the Coes wrench at the time and prior to the invention by Taft?

A cloud of witnesses, Loring Coes, the patentee, among the number, all swear that the original Coes wrench was defective in that the strain or back thrust of the rosette screw when the wrench was used came upon the ferrule, which in turn transmitted the strain or back thrust upon the wooden handle of the wrench, which soon gave way, thereby rendering the wrench useless until repaired or fitted with a new handle.

Taft obviated this objection by an invention whereby the
146 back thrust of the rosette screw was transferred from the ferrule and handle to the shank itself when the wrench was used.

The improvement is shown to be very valuable and important.

The very fact that this wrench needed improvement — required the study of twenty years or more before it was devised proves that it was no easy task to accomplish.

The claims presented by Mr. Coes in his application for reissue all limit the invention and improvement on the original Coes wrench, and hence the decision of the Supreme Court cited by the examiner in charge is a strong authority in favor of the claims as presented in the application for reissue.

The objections of the court were to reissue claims drawn to cover older and prior inventions.

Mr. Taft was the first person to discover a way or mode whereby the strain of the rosette screw could be transferred from the handle to the shank, and his assignee has the right to full and ample protection.

Nothing is claimed but what is clearly described in the original Taft patent and nothing is claimed which is found in the original Coes wrench.

In view of the above facts and reasons taken in connection with the explanation to be made in person by the attorney for applicant it is hoped the objections of the examiner will be no longer interposed to the allowance of the said reissue justly made in accordance with the law relating to reissues.

Very respectfully,

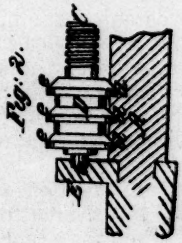
THOS. H. DODGE,
*Attorney for Applicant.*

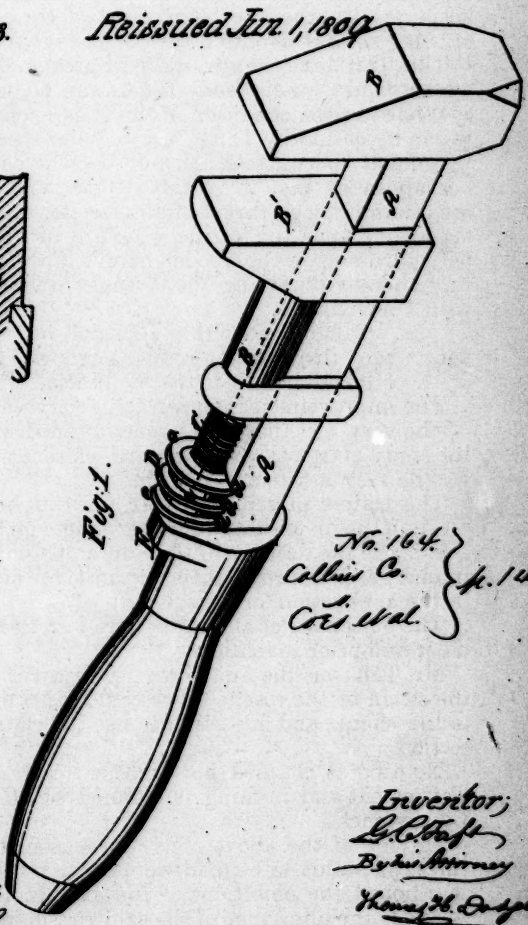
(Here follows diagram marked p. 146.)

G. C. Taft. 146

Wrench.

No. 3,483. Reissued Jan. 1, 1869




No. 164.
Collins Co.
Co's et al.
p. 146.

Witnesses;
W. Yorke Ax Lee
A. C. Widdicombe

Inventor;
G. C. Taft
By his Attorney
Thomas H. Dodge

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the digests of this office of all assignments found of record under and re-
147 lating to letters patent No. 40590, granted November 10th, 1863, to Geo. C. Taft, assignor to Thomas C. Dodge, for "wrenches."

In testimony whereof I, Sam'l S. Fisher, Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this twenty-seventh day of April, in the year of our Lord one thousand eight hundred and sixty-nine, and of the Independence of the United States the ninety-third.

[L. S.] SAM'L S. FISHER,
*Commissioner.*

Geo. C. Taft to Thomas H. Dodge.

Dated June 4, 1863. Recorded Sept. 4, 1863. "Screw wrenches."

"His right, the patent to issue to the assignee; also all reissues and extensions."

Liber $Z^s$, page 451.

Thos. H. Dodge to Worcester Tool Co.

Dated Dec. 2, 1865. Recorded Dec. 6, 1865. "Wrenches. Nov. 10, 1863, and Feb'y 23, 1864."

"His right in said two patents."

Liber $D^s$, page 256.

Worcester Tool Company, by N. M. Parker, treas'r, to Thos. H. Dodge.

Dated July 17, 1866. Recorded July 23, 1866. "Wrenches. Nov. 10, 1863, and Feb'y 23, 1864."

"All their right, &c., in said patent."

Liber $R^s$, page 20.

Thos. H. Dodge to Dodge & Wellington.

Dated Sept. 26, 1866. Recorded Nov. 8, 1866. "Wrenches, Nov. 10, 1863," and other patents.

"All his right in said several patents."

Liber $Y^s$, page 16.

148 Thos. H. Dodge and T. W. Wellington to Loring Coes.

Dated Feb'y 24, 1869. Recorded March 25, 1869. "Screw wrench, Nov. 10, 1863, No. 40590," and other patents.

"All their right in said patents and any improvements the said Taft may hereafter make."

Liber $C^{11}$, page 457.

1869.

Reissue.

Bebb. ~~1170~~ 1171.

No. 3483.

Loring Coes, ass'ee by mesne ass'ts of George C. Taft, of Worcester, county of Worcester, State of Massachusetts.

Wrenches.

Rec'd April 19, 1869; petition, affidavit, specification, drawing, April 21, 1869; old patent, No. 40590, Nov. 10, 1863.
Cert. dep't, —.
1. Cash, $30, April 19, 1869.
Examined, E. Babb, May 21, '69.
2. Issue, Grinnell, May 21, '69.
4. Patented Nov. 10, 1863.
Reissue, June 1, 1869.

A. POLLOK,
*Asso. Pres.*
T. H. DODGE,
*Worcester, Mass.*

1st rejection May 13, 1869.
O'Neil.
Improvement in wrenches.

(MEMORANDUM.—Here follows Taft's 1869 reissue patent, which, being heretofore printed as "Complainant's Exhibit Taft's 1869 Reissue Patent," is not reprinted.—J. G. S., clerk.)

149 COMPLAINANT'S EXHIBIT "COMPLAINANT'S REISSUE APPLICATION." W. H. M., Special Examiner.

THE UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the files of this office of the file wrapper and contents in the matter of the reissue letters patent granted The Collins Company, ass'ees of L. Jordan and Leander E. Smith, dated Feb. 25, 1873, No. 5294, for "wrenches."

In testimony whereof I, J. M. Thacher, acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this twenty-seventh day of January, in the year of our Lord one thousand eight hundred and seventy-four, and of the Independence of the United States the ninety-eighth.

[SEAL] J. M. THACHER,
*Acting Commissioner.*

HARTFORD, CONN., *Aug.* 3, 1871.

Hon. Com'r of Patents.

SIR: I enclose Jordan & Smith wrench patent for reissue; also the application and fee for such reissue. The drawing made in accordance with present rules goes by same mail on roller.

Respectfully, W. E. SIMONDS, *Attorney.*

HARTFORD, CONN., *Aug.* 3, 1871.

Hon. Com'r of Patents.

SIR: Please to recognize A. H. & R. K. Evans as associate attor-

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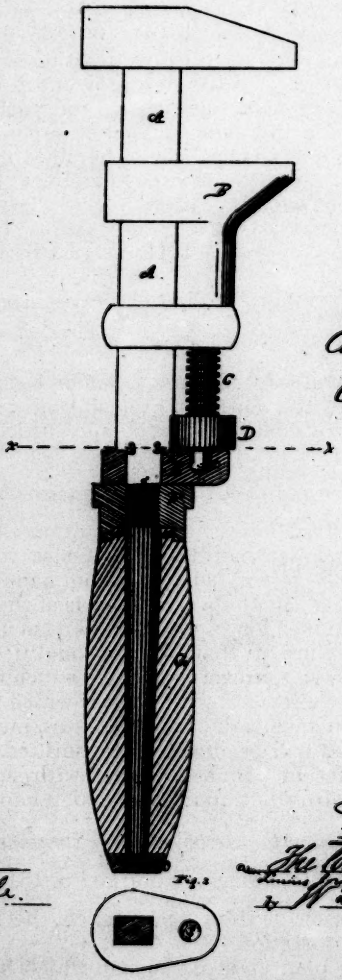
L. JORDAN & L. E. SMITH. The Collins Company, Assignee.

Wrenches.

No. 5,294. Reissued Feb. 25, 1873.

Fig. 1




No. 164.
Collins Co.
v.
Cox et al.
p. 151

Witnesses.

L. Hopkins

T. C. Steele.

Assignee
of
Inventors

The Collins Company
Lincoln Jordan & L. E. Smith
by Wm. E. Simonds
Atty

neys in the application of The Collins Co. to reissue the wrench patent of Jordan & Smith.

Respectfully, W. E. SIMONDS, *Attorney.*

150 *Petition.*

To the Commissioner of Patents:

Your petitioner, The Collins Company, a corporation under the laws of the State of Connecticut, located and doing business at Collinsville, in the county of Hartford, in said State, prays that it may be allowed to surrender the (reissued) letters patent granted to Lucius Jordan and Leander E. Smith Oct. 10, 1865, for an improvement in wrenches, and reissued to your petitioner Feb. 22, 1870, which were assigned to your petitioner previous to July 8, 1870, whereof your petitioner is now sole owner, and that letters patent may be reissued to it for the same invention upon the annexed amended specification; and your petitioner hereby appoints William E. Simonds, of Hartford, Conn., its attorney herein, with full power of substitution, association, and revocation.

[Collins Co., July 26, 1870.]

THE COLLINS COMPANY,
By W. I. WOOD,
*Vice-President and Chief Executive Officer.*

*Specification.*

Be it known that Lucius Jordan and Leander E. Smith, of Southington, in the county of Hartford and State of Connecticut, invented a new and useful improvement in wrenches, of which the following is a specification:

*Nature and Objects of the Invention.*

The object of this invention is the prevention of end thrust or back pressure on the wooden handles of wrenches, which has heretofore availed to quickly destroy such wooden handles, and in destroying the handles has left the working parts of the wrench which depended upon the handles for support without such support, so as to injure and effectually impair their working qualities and efficiency, and is accomplished by so connecting the step which forms a bearing for the lower end of the screw rod with the bar which forms the main part of the wrench that the back pressure put upon the step
151 by the screw rod will be directly transmitted to the wrench bar at the place of connection therewith, and will not be transmitted to and mainly put upon the wooden handle.

*Description of the Accompanying Drawings.*

(Here follows diagram marked p. 151.)

Figure 1 is a side view of the whole wrench, the part below the dotted line $x\ x$ being in section.

Figure 2 is a top or plan view of the step which forms a bearing for the lower end of the screw rod.

*General Description.*

The letter A indicates the wrench bar, flat-sided down to the under side of the step E, and from thence downward cylindrical or of other convenient shape so as to take upon it the wooden handle G. C is the movable jaw.

The letter C indicates the screw rod and D the rosette by which it is turned.

The letter E indicates the step in which is the bearings for the lower end of the screw rod, and also the hole *d* to admit the bar A and fitting up against the shoulder *b*.

On the bar A, just below the step E, is cut the screw thread *i* on which screws the nut F, forming a projection from the wrench bar, on which rests the step E, and thus transmits the back pressure put upon the step directly to the wrench bar at the place of connection therewith, and thus relieves the wooden handle therefrom.*

The nut not only supports the step, but can be made to rigidly fasten the step to the bar by screwing it firmly up against the step so as to gripe it between itself and the shoulder *b*, thus giving the nut, so to speak, a double office, viz., that of supporting the step and also that of fastening it rigidly to the bar.

The nut is interiorly recessed at *d* for the purpose of forming a ferrule for the top of the wooden handle.

Heretofore the part designed to perform the office of the step E has rested directly on the wooden handle, which was secured upon the bar by a light nut, *o*, at the lower extremity of the bar, which is the present method of fastening on the handle.†

152 *Claim.*

‡(The step (E) combined with the bar (A) and supported thereby against back pressure at the place of connection therewith, substantially as described and for the purpose set forth.)

Also the nut (F) combined with the wrench bar and interiorly recessed (at *d*), for the purpose set forth.

Also the nut (F) combined with the threaded bar and performing the office of supporting the step, and also of rigidly fastening it to the bar, for the purpose set forth.

In witness whereof The Collins Company has hereto set its hand.

THE COLLINS COMPANY,
By W. I. WOOD,
*Vice-President and Chief Executive Officer.*

Witnesses:
CHAS. BLAIN.
LUKE CHAPMAN.
EDWARD H. SEARS.

---

*Insert A, Jan. 27, 1873.
†Erase A, Dec. 18, 1871; insert C, Feb. 24, 1872.
‡Erase B, Dec. 18, 1871; substitute B, February, 1873.

*Oath.*

STATE OF CONNECTICUT, } ss:
*County of Hartford,* }

William I. Wood, vice-president and chief executive officer of the said Collins Company and acting in its behalf, being duly sworn, deposes and says that he verily believes that by reason of insufficient and defective specification the aforesaid letters patent granted to Lucius Jordan and Leander E. Smith are inoperative and invalid; that the said error has arisen from inadvertence, accident, or mistake and without any fraud or deceptive invention, to the best of his knowledge and belief; that the entire title to said letters patent is vested in said Collins Company, and that he verily believes the said Lucius Jordan and Leander E. Smith to be the original, first, and joint inventors of the invention set forth and claimed in the foregoing amended specification, and that said invention and letters patent were assigned to said Collins Company previous to July 8, 1870.

153

W. I. WOOD.

Sworn to and subscribed before me this twenty-sixth day of July, A. D. 1871.

[SEAL.] W. W. BIDWELL,
*Notary Public.*

U. S. PATENT OFFICE,
WASHINGTON, D. C., *Aug.* 17, 1871.

The Collins Co., care W. E. Simonds, Hartford, Conn.

SIR: Please find below the decision of the examiner in charge in the matter of your application for a reissue of patent No. 3852, dated the twenty-second day of Feb., 1870, for imp't in wrenches, and issued to applicant, filed Aug. 5, '71.

Very respectfully,

——— ———,
*Commissioner.*

EXAMINER'S ROOM No. 152.

The application above referred to has been examined in view of the patents of Loring Coes, April 16, '41, reissued June 26, '49; H. I. Behrens, May 24, '59, and J. E. Atwood's withdrawn application, filed Nov. 23, '52, and that of N. Whipple, May 6, '54; the first claim cannot be allowed. In the patent of Coes the step is supported by the nut on the end of the shank through the medium of the handle and ferrule.

While it is apparent that applicant wishes to avoid that constructed and that the defects of that construction were the occasion of Jordan & Smith's invention, yet the claim presented does not bring out the difference with sufficient clearness.

The step in the Coes patent is and must be supported against back pressure.

The other references show steps or their equivalents rigidly fastened to the wrench bar.

GRIGGS, *Examiner.*

154 HARTFORD, CT., *Oct.* 14, 1871.

Hon. Com'r of Patents.

SIR: In the application to reissue Jordan & Smith's wrench patent, now pending, your favor of the 19th of Aug., 1871, rec'd.

The examiner in charge, when this patent was once before reissued, caused me to take a claim for the step broadly, when he knew of just such a step in L. Coes' 1841 wrench patent.

We must be excused from taking his present *dictum.*

The first reference is to L. Coes' 1841 patent. He does not support his step by the bar, except through the medium of the handle, and then not "at the place of connection" therewith, which is our claim.

Coes fails as a reference.

The next reference is to I. H. Behrens.

We have no step at all, which is one of the elements of our combination.

Behrens, too, fails as a reference.

The other two references are to rejected cases—Atwood and Whipple.

Both these rivet the part which the examiner forces into the office of our step by rivets which pierce the body of the bar, a thing which is objectionable to the last degree, as the bar is thereby fatally weakened. No wrench with its bar pierced by a rivet would stand the least chance in the market.

We claim supporting our step by the bar *x x x*, "substantially as described," which is not infringed by permanently riveting the step to the bar any more than it would be by shrinking the step or the bar or making it solid on the bar.

The words "substantially as described" are not inserted as mere verbiage, and are made sufficiently definite by the description in the specification.

These, too, fail as references.

We ask for the allowance of our claims as they stand.

Respectfully, W. E. SIMONDS.

P. S.—We are ready to disclaim riveting if that suits the views of the examiner any better.

155 U. S. PATENT OFFICE,
WASHINGTON, D. C., *Oct.* 20, 1871.

The Collins Co., care Wm. E. Simonds, Hartford, Conn.

SIR: Please find below the decision of the examiner in charge in the matter of your application for a reissue of patent No. 3852, dated the twenty-second day of February, 1870, for imp't in wrenches, and issued to applicant, filed Aug. 5, 1871.

Very respectfully, ——— ———,

*Commissioner.*

EXAMINER'S ROOM No. 105.

The application above referred to has been re-examined in connection with argument filed Oct. 18, 1871.

The pertinence of the references for the first claim, cited in former official communication, must be insisted on, notwithstanding applicant's objections and criticisms.

That the Coes patent shows a step supported by the bar against back pressure cannot be denied; it is equally true that it is supported at the place of connection, for if the means of support were at a distance from the step it would cease to support it. A thing cannot act upon another except where that other is.

The means of support is, however, different. Coes supports the steps by a wood sleeve interposed between the nut and step, while applicant employs an additional nut bearing directly against the step. In the Behrens patent the step is supported by the bar in another way; so of the other references. The patent of A. Y. McDonald, Mar. 28, 1865, shows a movable or adjustable step, which is supported on and by the shank against the back thrust in another way. Provisional English Patent 3195, of 1860, describes another way of supporting the step, viz., by making it solid with the bar itself. R. S. Stenton's patent of July 24, 1866, filed July 12, 1865 (ten days before applicant's earliest file date), shows the same plan in a different form from that described in the Eng. pat. The
156 only thing which distinguishes applicant's claim from the references cited is the phrase "substantially as described," which is not sufficient. See decision of Commissioner in case of C. Rubens & Co., pp. 107 and 108, for 1869. Jordan & Smith did not discover a new principle, but only a new of means of carrying out an old principle, and to that applicant must be limited.

GRIGGS, *Ex'r.*

*Amendment.*

In the Collins Company's application to reissue Jordan & Smith's wrench patent the specification is amended by inserting at the end and immediately before the claim the following:

*[It is known that previous to this invention steps have fastened to the bar by being made solid with it, and also by reveting, but these methods make a permanent fastening, rendering it impossible or a work of great difficulty to remove the step in order to remove the movable jaw for repairs. It will be observed that while Jordan & Smith's method of fastening is as firm as the permanent fastening referred to, their step can be removed and again put in place when it is desired. It is believed that Smith & Jordan were the first to effect this with a fixed stationary step, at the same time supporting the step immediately by the bar and not mediately through the handle.

As a matter of definition, then, Jordan & Smith's method of fastening and supporting the step is denominated "removable" herein-

*A. Erase words in brackets; see amendment, Feb. 24, 1872.

after in contradistinction from a connection and support made by making the step in one piece with the bar or riveting it thereto, or the like.]

The first clause of the claim is made to read—

*[The fixed removal step combined with the bar and supported thereby against back pressure at the immediate point of connection therewith, substantially as described.]

Dated Dec. 8, 1871.

COLLINS CO.,
By W. E. SIMONDS, *Attorney.*

157

U. S. PATENT OFFICE,
WASHINGTON, D. C., *Dec.* 21, 1871.

The Collins Co., care A. H. & R. K. Evans, pres't.

SIR: Please find below the decision of the examiner in charge in the matter of your application for a reissue of patent No. 3852, dated the twenty-second day of February, 1870, imp't in wrenches, and issued to applicant, filed Aug. 5, 1871.

Very respectfully,

——— ———,
*Commissioner.*

EXAMINER'S ROOM No. 103.

The application above referred to has been re-examined in connection with amendment filed Dec. 13, 1871.

Applicant disclaims one or two of the forms of step to which he was referred and has altered somewhat the phraseology of his claim, but it is still broad enough to cover not only those forms which he disclaims, but other which he does not disclaim and probably wishes to cover.

If a step can be at the same time "fixed and removable" the riveted step of Behrend would answer the description. It is fixed in the sense that it will not yield to the back thrust and by removing the rivet can be removed. In the same sense Macdonald's is fixed and can be removed with ease.

But if applicant wishes to disclaim every known form of "fixed and removable" step the present claim would not be allowed, because it would be against good practice to do so. A sufficiently explicit claim is in itself the only disclaimer required in such a case.

GRIGGS, *Ex'r.*

*Amendment.*

In the matter of our application to reissue letters patent for improvements in wrenches granted to Lucius Jordan and L. E. Smith October 10, 1865, filed August 5, 1871, the specification is amended by erasing all the matter commencing—

* Erase words in brackets and insert B of amendment filed Jan. 27, 1873.

158 *["It is known that previous," &c., and ending with "thereto or the like," which now put into the specification by our amendment dated Dec., 1871, and inserting in lieu thereof the following:

It is known that previous to this invention steps have been forged or otherwise produced solid with the bar, and this becomes as much a part of it as the solid head at extremity of bar, and also by riveting to reach similar result; but such method, by making a permanent fastening, renders it impossible or a work of great difficulty to displace the step in order to remove the sliding jaw for repairs. It will be observed that while Jordan and Smith method of fastening is as firm as the permanent fastenings last above referred, their step can readily be removed and again put in place at pleasure. It is believed that Smith and Jordan were the first to secure easy divisibility of step and bar together with a fixed or stationary step when in position and at the same time supporting the step when in position immediately by the bar and not mediately through the handle, as the manner had been. As a matter of definition the Jordan and Smith method of fastening and supporting the step when in position is denominated "removable" hereinafter in contradistinction from a connection and support made by forging or otherwise producing the step in one solid piece with the bar and therefore a part of it or by riveting it thereto, or the like.]

Dated February 22, 1872.

THE COLLINS CO.,
By W. E. SIMONDS, *Att'y.*

U. S. PATENT OFFICE,
WASHINGTON, D. C., *Feb.* 28, 1872.

The Collins Co., A. H. & R. K. Evans, pres't.

SIR: Please find below the decision of the examiner in charge in the matter of your application for a reissue of patent No. 3852, dated the 22nd day of Feb., 1870, for imp't in wrenches, and issued to applicant, filed Aug. 5, '71.

Very respectfully,

——— ———,
*Commissioner.*

159 EXAMINER'S ROOM No. 103.

The application above referred to has been re-examined in connection with amendment filed Feb. 24, '72. The amendment does not place the matter in any better light. It is no doubt true that the device of Jordan & Smith has advantage over any of the references cited, which would be a good reason for granting a claim to Jordan and Smith's device, but not a good reason for granting a claim which may or may not be Jordan & Smith's, according to the construction given it.

No amendment will help this case but an amendment of the first claim, which, as it now stands, is not only a contradiction of terms, but not sufficiently defined in view of the references.

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*C. Words in brackets insert on last page.

Applicant is referred to the decision of the Commissioner in the case of B. J. Hobson in Official Gazette, Feb. 13, '72.

Application again disallowed.

GRIGGS, *Ex.*

HARTFORD, CT., *Jan.* 23, 1873.

Hon. Com'r of Patents.

SIR: In the matter of the application of the Collins Company for reissue of patent to Jordan & Smith for wrenches, granted October 10, 1865, decided on appeal by the Commissioner Nov. 29, 1872, the decision of the Commissioner intimates that if appropriate reference is made in the 1st claim to the "nut F" the claim may be allowed.

We have therefore to submit for the consideration of the Commissioner the following proposition:

To add under the head of "nature and objects of the invention" in the specification immediately after the words "thus relieving the wooden handles from any back pressure" the following:

*["The connection of the step with the bar being made in such manner that the step may be removed or taken off the bar without any cutting or abrasion of parts."]

To erase from the end of the specification the matter con-
160 tained in the amendment dated Dec. 8, 1871, commencing "as a matter of definition" and ending with "or the like."

To amend the 1st claim to read †["The step combined with the wrench bar and supported by the nut F (or other equivalent projection from the bar) in such manner that the step can be removed from the bar without cutting or abrasion of parts."]

It may be irregular to ask the Commissioner to consider proposed amendments or to consider them at all except — brought before him on appeal, but we beg the Commissioner to remember that this reissue has now been pending before the office since August 5th, 1871, and it may take as long to get these amendments before him in the regular course of appeal, to the great damage of the Collins Company.

If these amendments will satisfy the Commissioner we are willing to make them, and it seems to us that we are entitled to this much. Speedy action is requested.

Respectfully,

THE COLLINS CO.,
By W. E. SIMONDS, *Att'y.*

Approved for examination and referred to the examiner.

M. D. LEGGETT, *Com.*

U. S. PATENT OFFICE,
WASHINGTON, D. C., *Feb.* 3*d*, 1873.

The Collins Co., care W. E. Simonds, Hartford, Conn.

SIR: Please find below the decision of the examiner in charge in the matter of your application for a reissue of patent No. 3852,

*Insert words in brackets [ ], "A," on page 8.
† Words in brackets [ ] are marked "B" and afterwards erased.

dated the 22d day of February, 1870, for improvement in wrenches, and issued to applicant, filed Aug. 5, 1871.

Very respectfully,

——— ———,
*Commissioner.*

161 EXAMINER'S ROOM No. 103.

The application above referred to has been re-examined in view of the amendment filed January 27, 1873. By inserting the words "at the place of connection therewith" after the word "bar" in the 4th line of the amended claim it will more clearly distinguish the invention from the patent of Coes and at the same time not impose upon the claim of applicant an unjust limitation.

CHAS. W. FORBES, *Exam'r.*

*Amendment.*

WASHINGTON, D. C., *Feb.* 17, 1873.

In the matter of the application of the Collins Company to reissue patent to Jordan & Smith, granted October, 1865, in accordance with a verbal suggestion of the examiner in charge made to-day, the 1st clause of the claim is amended to read:

*["The step, combined with the wrench bar and supported by the nut (F) or its equivalent, at the place where the step is connected with the bar, in such manner that the step can be removed from the bar without cutting or abrasion of parts."]

THE COLLINS COMPANY,
By W. E. SIMONDS, *Att'y.*

U. S. PATENT OFFICE.

Reissue. $\frac{170}{1860}$.

*Application of the Collins Company, Ass'ees, &c. Filed Aug.* 5, 1871.

Contents of this file:

1. Application.
2. Brief, Aug. 17, '71.
3. Argument, Oct. 18, '71.
4. Brief, Oct. 20, '71.

162 5. Amendment, Dec. 13, 1871.

6. Brief, Dec. 21, '71.
7. Amendment, Feb. 24, 1872.
8. Brief, Feb. 28, '72.
9. Amendment filed Jan'y 27, 1873.
10. Letter, Feb. 3, 1873.
11. Am'd't, Feb. 18, 1873.
12. Brief of inv., Feb. —, 1873.

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*B. Words in brackets [ ] insert on page 4.

1870.

No. 5294. Reissue. $\frac{170}{1560}$.

The Collins Company, ass'ees of Lucius Jordan and Leander E. Smith, of Collinsville, State of Connecticut.

Wrenches.

Rec'd Aug't 5, 1871; petition, affidavit, specification, 1 drawing.
Old patent reissue No. 3852, Feb'y 22, 1870.
Cert. dep., —.
1. Cash, $30, Aug't 5, 1871.
Examined Feb. 19, 1873. Forbes.
2. Issue, Feb'y 20, '73. Knight.
3. Patented Oct. 10, 1865.
Reissued Feb. 22, 1870, and again reissued February 25, 1873.
Recorded vol. —, page —.

WM. E. SIMONDS,
*Hartford, Conn.*

1871.

A. H. & R. K. Evans.

163 COMPLAINANT'S EXHIBIT "EADES' PROVISIONAL ENGLISH PATENT." W. H. M., Special Examiner.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the bound volumes of the library of this office of the provisional specification filed December 31, 1860, No. 3195, in the matter of the application of W. Eades for English letters patent for screw wrench.

In testimony whereof I, W. H. Doolittle, acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this fourth day of April, in the year of our Lord one thousand eight hundred and seventy-nine, and of the Independence of the United States the one hundred and third.

[SEAL.] W. H. DOOLITTLE,
*Acting Commissioner.*

A. D. 1860, 31st December. No. 3195.

*Screw Wrench.*

(This invention received provisional protection only.)

Provisional specification left by William Eades at the office of the Commissioner of Patents, with his petition, on the 31st December, 1860.

I, William Eades, machinist and general tool manufacturer, of Birmingham, in the county of Warwick, do hereby declare the

nature of my said invention for "an improved screw wrench" to be as follows (that is to say):

My improvements consist in making screw wrenches in the following way:

I form the handle or main bar of the wrench in such a way
164 that it may be readily applied to or connected with the outer fixed jaw by riveting or pinning, but before fixing the outer jaw I apply the inner or sliding jaw, which I adjust by means of a milled-headed screw abutting against a projecting shoulder formed on the handle, a part of which is filed away to give room for the projecting head of the screw to work in. The under side of the movable jaw is formed with an angular projecting piece, the length of which defines the range of adjustment, as the screw for adjusting the movable jaw is tapped into this part, which works along on the lower edge of the bar by the screw being turned by passing the thumb across its milled head. The angular part in connection with the movable jaw (before referred to) will also greatly assist in counteracting or resisting the strain on the jaw when in use. Thus I produce a strong, substantial wrench at less cost than they have been hitherto produced, and from the nature of their construction they will be found exceedingly handy for shifting or adjusting (when in the hand), as may be required by the user.

Ex'd: H. M. H., E. A. M.

COMPLAINANT'S EXHIBIT ATWOOD'S REJECTED APPLICATION. W. H. M., Special Examiner.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the files of this office of the file wrapper, contents and drawing, in the matter of the application of J. E. Atwood, filed *of* Nov. 23rd, 1852, for screw wrench.

In testimony whereof I, W. H. Doolittle, acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this eighth day of April, in the year of our Lord one thousand eight hundred and seventy-nine, and of the Independence of the United States the one hundred and third.

[SEAL.] W. H. DOOLITTLE,
*Acting Commissioner.*

165 *Petition.*

To the Commissioner of Patents:

The petition of J. E. Atwood, of Mansfield Centre, in the county of Tolland and State of Connecticut, respectfully represents that your petitioner has invented a new and useful improvement in the screw wrench which he verily believes has not been known or used prior to the invention thereof by your petitioner. He therefore

prays that letters patent of the United States may be granted to him therefor, vesting in him and his legal representatives the exclusive right to the same, upon the terms and conditions expressed in the act of Congress in that case made and provided, he having paid thirty dollars into the Treasury and otherwise complied with the requirements of said act; and he hereby authorizes O. D. Munn and S. H. Wales, of the firm Munn & Co., or their accredited agents, to act as his attorneys in presenting the application and in making all such alterations and amendments as may be required.

J. E. ATWOOD.

STATE OF CONNECTICUT, } ss:
*County of Tolland,* }

On this 18 day of November, 1852, before the subscriber, a justice of the peace in and for said county, personally appeared the within-named J. E. Atwood and made solemn oath that he verily believes himself to be the original and first inventor of the within-described improvement in the screw wrench, and that he does not know or believe that the same was ever before known or used, and that he is a citizen of the United States.

MANNING F.,
*Justice of the Peace.*

*The Schedule Referred to in These Letters Patent and Making Part of the Same.*

To all whom it may concern:

Be it known that I, John E. Atwood, of Mansfield Centre, in the county of Tolland and State of Connecticut, have invented a new and useful improvement in the screw wrench; and I do
166 hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

(Here follows diagram marked p. 166.)

Figure 1 is a view of one of the broad sides of the wrench.

Fig. 2 is a longitudinal section of the wrench, it being in the same position as it is in Fig. 1.

Fig. 3 is a transverse section through the line *x x* in Fig. 1.

Similar letters of reference in each of the several figures indicate corresponding parts.

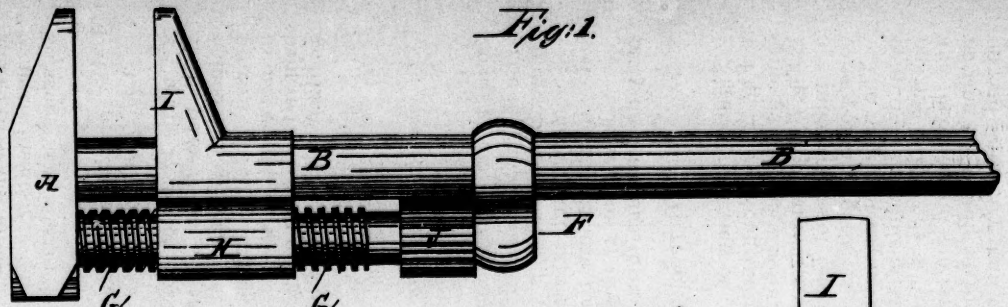
The nature of my invention consists in arranging on the back or behind the handle of the wrench a stout stationary shaft, which has one of its ends secured fast in the stationary jaw of the wrench and its other end similarly secured in the eye of the coupling, connecting the handle of the wrench with the said shaft and placing on said stationary shaft a movable hollow screw, on which the cylindrical nut of the movable jaw of the wrench is screwed, the said movable hollow screw turning very easily and freely on said shaft and serving to screw up or separate the jaws of the wrench.

166

J. E. Atwood,
Screw Wrench

Filed Nov 23, 1852.

Fig: 1.

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& Cox's stal. } p. 166

Fig: 3.

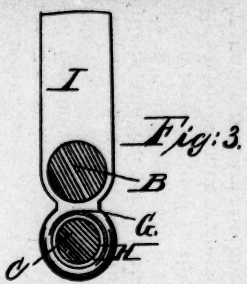
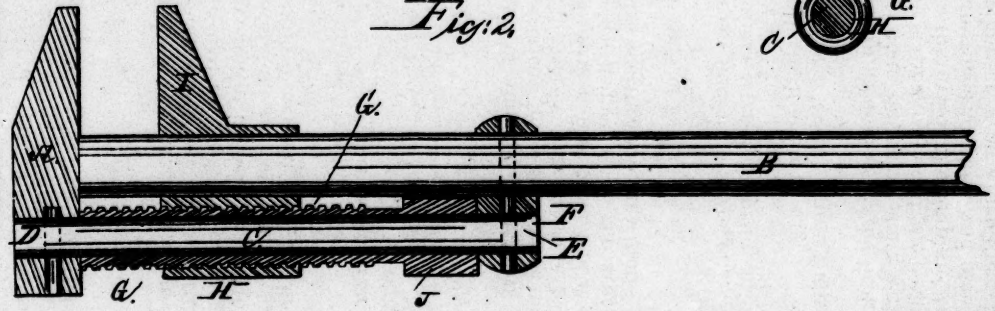



Fig: 2.



By thus constructing the wrench some important ends are gained, viz., the wrench is rendered more strong and durable and that, too, at a less cost than the common wrench. The movable jaw of the wrench can be screwed up or unscrewed, as desired, much easier and more quickly than heretofore, for it will be seen that as the screw is light and separate from the shaft which is arranged behind the handle, it can be moved easier than what it could be were the screw cut directly on the said shaft, in which latter case the shaft must necessarily turn with the screw, and consequently the trouble of operating the movable jaw of the wrench is much greater than when the screw is made separate and hollow, and capable of turning free of the said shaft; and if the shaft is made movable and with the screw cut on it its bearings will be constantly wearing away, and in a short time they become very irregular, and consequently the wrench is rendered in a great measure useless, and if used the operation of unscrewing or screwing up the movable jaw is very tedious.

To enable others skilled in the art to make and use my invention I will proceed to describe it more fully.

A represents the stationary jaw of the wrench and B its
167 handle, both of which may be constructed substantially as shown in the drawing or in any more suitable way.

C is the stationary shaft arranged behind or on the back of the handle of the wrench. This shaft has one of its ends, that — D, secured fast in the stationary jaw A and its other end, E, secured in like manner in the coupling or bearing F, as shown in Fig. 2, the coupling F serving as a bearing for the shaft C, and also as a coupling for connecting the shaft C with the handle B, as seen in Fig. 2.

G is the hollow separate movable screw placed loosely on the shaft C, as shown in Figs. 2 and 3. This screw works in the cylindrical nut H of the movable jaw I. The nut and jaw are arranged on and move over the shaft C and handle B in the manner shown in Figs. 2 and 3.

What I claim as my invention and desire to secure by letters patent is—.

The employment of a separate hollow screw, G, secured loosely on the stationary shaft C and working in the cylindrical nut H of the movable jaw I, in combination with the wrench A B, the whole being constructed, arranged, and operating in the manner and for the purpose fully set forth and described in the foregoing specification.

J. E. ATWOOD.

Witnesses:
E. SHUMWAY.
ORLOW ATWOOD.

NEW YORK, *Nov.* 22, 1862.

Com'r of Patents.

SIR: Accompanying we for'd the spec'n and dr'gs of an alleged imp't in wrenches invented by J. E. Atwood, Esq., of Mansfied Centre, Ct.

Enclosed is a certificate of dep't for am't Gov't fees.

Resp'y, y'r ob't serv'ts, MUNN & CO.

17—164

MANSFIELD CENTRE, CONN, *Dec. 27th*, 1852.

To the Commissioner of Patents.

SIR: I hereby withdraw my application for a patent for improvements in the screw wrench now in your office, and request
168 that twenty dollars may be returned to me, agreeably to the provision of the act of Congress authorizing such withdrawal.

JOHN E. ATWOOD.

MANSFIELD CENTRE, CONN., *March* 17, 1853.

To the Commissioner of Patents.

SIR: You may rem't by mail the amount due me at the Patent Office.

JOHN E. ATWOOD.

No. 1946.

J. E. Atwood, of Mansfield Centre, county of Tolland, State of Conn't.

Screw wrench.

Rec'd Nov. 23, 1852; petition, affidavit, specification, 2 drawings.
3. Model, Dec. 4, 1852.
1. Cert. dep., $30, Nov. 23, 1852.
Cash, —, Nov. 23, 1852.
Cash by mail to applicant, Nov. 23, 1852.
Examined March 21, 1853.
2. Issue, March 21, 1853.
3. Patented —— —, 185–.
Recorded vol. —, page —.

MUNN & CO.,
*New York, N. Y.*

W. Cir., 30 Dec., 1852.
Rej. Dec. 11, 1852.
Ex'd: E. A. M., H. M. H.

169 COMPLAINANT'S EXHIBIT WHIPPLE'S REJECTED APPLICATION.
W. H. M., Special Examiner.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

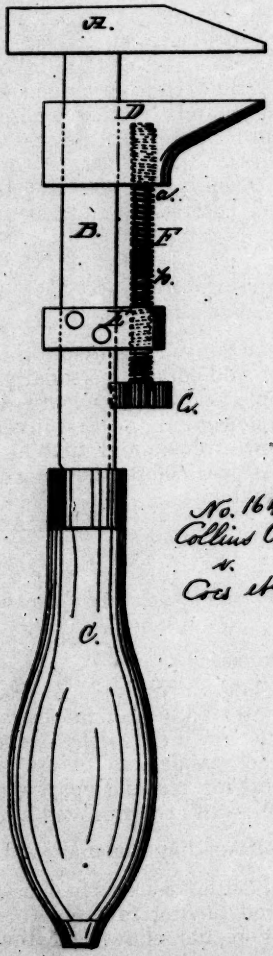
This is to certify that the annexed is a true copy from the files of this office of the file wrapper, contents, and drawing in the matter of the application of Nathan Whipple, filed May 6th, 1854, for improved screw wrench.

In testimony whereof I, W. H. Doolittle, acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed the eighth day of April, in the year of our Lord one thousand eight hundred and seventy-nine, and of the Independence of the United States the one hundred and third.

[SEAL.] W. H. DOOLITTLE,
*Acting Commissioner.*

# N. Whipple
## Screw Wrench.

Filed May 6, 1854




No. 164. Collins Co. v. Coes et al. } p. 170

*Petition.*

To the Commissioner of Patents:

The petition of Nathan Whipple, of Ledyard, in the county of New London and State of Connecticut, respectfully represents—

That your petitioner has invented a new and useful improved screw wrench which he verily believes has not been known or used prior to the invention thereof by your petitioner. He therefore prays that letters patent of the United States may be granted to him therefor, vesting in him and his legal representatives the exclusive right to the same, upon the terms and conditions expressed in the act of Congress in that case made and provided, he having paid thirty dollars into the Treasury and otherwise complied with the requirements of said act; and he hereby authorizes O. D. Munn and S. H. Wales, of the firm Munn & Co., or their accredited agents,
170 to act as his attorneys in presenting the application and in making all such alterations and amendments as may be required.

NATHAN WHIPPLE.

STATE OF CONNECTICUT, } ss:
*County of New London,* }

On this second day of May, 1854, before the subscriber, a justice of the peace in and for said county, personally appeared the within-named Nathan Whipple and made solemn oath that he verily believes himself to be the original and first inventor of the within-described improved screw wrench, and that he does not know or believe that the same was ever before known or used, and that he is a citizen of the United States.

WILLIAM C. CRUMP,
*Justice of the Peace.*

*The Schedule Referred to in These Letters Patent and Making Part of the Same.*

To all whom it may concern:

Be it known that I, Nathan Whipple, of Ledyard, in the county of New London and State of Connecticut, have invented a new and improved screw wrench; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being made to the annexed drawing, making a part of this specification, said drawing being a side view of my improved wrench.

(Here follows diagram marked p. 170.)

The nature of my invention consists in operating the movable jaw by means of a screw rod having reversed threads cut upon it and arranged, as will be hereafter shown, for the purpose of giving a rapid movement to the jaw when operated.

To enable others skilled in the art to fully understand and construct my invention I will proceed to describe it.

A represents the upper and stationary jaw at the end of a rectangular shank, B, said jaw and shank being constructed of the usual materials and the shank secured in a handle, C, in any proper manner.

D is the lower and movable jaw through which the shank B passes, the jaw D being allowed to move freely upon the
171 shank. This movable jaw is of the usual form, as will be seen by referring to the drawing.

E is a nut attached permanently to the shank B, and F is a screw rod which works in the nut E and in the under side of the movable jaw D.

The screw rod F has two threads (*a*) (*b*) cut upon it, the upper thread (*a*) being cut reverse to the lower thread (*b*), as clearly shown in the drawing. The thread (*a*) works in the female thread in the under side of the jaw D, and the thread (*b*) also works in the female thread of the nut E.

G is a small thumb wheel at the lower end of the screw rod F for the purpose of turning the screw rod.

It will readily be seen that by turning the screw rod F the jaw D will move at every revolution of the screw rod a distance equal to double the pitch of the threads (*a*) (*b*) or just double the distance of the ordinary wrenches in use, one thread only being cut on the screw rods.

By this improvement much time is saved in adjusting the wrench to nuts, and it may be made equally as strong and economical as any of the improved wrenches in use.

What I claim as new and desire to secure by letters patent is—

Operating the movable jaw D by means of the screw rod F, having reversed threads (*a*) (*b*) cut upon it, and arranged substantially as shown in the body of the specification and for the purpose as set forth.

NATHAN WHIPPLE.

Witnesses:
WILLIAM C. CRUMP.
WM. TATE.

PATENT OFFICE, 24 *May*, 1854.

SIR: Your application for a patent for improvement in screw wrenches, having been referred to the proper examiner, is rejected. The right and left screw as applied to operate the jaws of screw wrenches and vises is shown in the rejected application of John Boynton, of H. S. Vrooman, and of Phineas P. Quimby.

E——.

Nathan Whipple, Munn & Co., N. Y.

172 To Hon. W. D. Bishop, Commissioner of Patents.

SIR: I hereby withdraw my application for a patent for improvements in screw wrenches now in your office, and request that twenty dollars may be returned to I. C. Tate, of New London, Conn., agreeable to the provision of the act of Congress authorizing such withdrawal.

New London, Conn., May 31, 1859.

NATHAN WHIPPLE.

No. —.

Nathan Whipple, of Ledyard, county of New London, State of Connecticut.

Improved screw wrench.

Rec'd May 6, 1854; petition, affidavit, specification, 2 drawings.
3. Model, May 23, 1854.
1. Cert. dep., $30, May 6, 1854.
Cash, —.
2. Examined, cash by mail to J. C. Tate, June 11th, 1859.
Issue, —.
3. Patented, —— —, 185–.
Recorded vol. — page —.

MUNN & CO.,
*New York, N. Y.*

Rejected May 24, 1854.
Ex'd: E. A. M., H. M. H.

173 COMPLAINANT'S EXHIBIT BEHRENS' PATENT. W. H. M., Special Examiner.

*Letters Patent of the United States No.* 24175, *Granted Charles S. Pomeroy, Assignee of Benjamin I. Behrens, May* 24, 1859.

Improved Wrench.

*Specification.*

To all whom it may concern:

Be it known that I, Henry J. Behrens, of the city, county, and State of New York, have invented a new and improved griping wrench; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

Griping wrenches have been heretofore constructed binding by means of an eccentric inserted in the movable jaw, as in Hyde's wrench, or by making the jaw itself movable upon a hinge by connecting a washer on the nut with the stationary jaw, as in Foster's wrench.

But both these devices are open to objection; Hyde's because of the necessary exactness and consequent expense of its construction, and also because the cam inserted within the jaw has its centre of motion so near its periphery as to admit but a limited range and consequent diminution of power and effectiveness, having at the same time but a narrow bearing upon the object embraced between the jaws. In Foster's wrench the mode of construction is so faulty as to be readily apparent, lacking strength and not convenient in use.

The improvement which I have made seeks to remove the defects of the others by a simple and yet most effective method, by which

the entire movable jaw, although constructed with a similiar arrangement of parts as in the best style of ordinary screw
174 wrench, possesses a binding power more effective and simpler than any previously made.

This will be better understood by a reference to the accompanying drawings and the letters of reference marked thereon, Fig. 1 being a side view and figure 2 a front view.

(Here follows diagram marked p. 174.)

A is the stationary jaw and bar of the wrench as ordinarily constructed, except that at B is a recess to admit the socket C of the screw which actuates the movable jaw D. At B this socket, in which one end of the screw revolves, is furnished with a pivot, admitting of the motion of the entire combination of jaw, screw, and socket towards the stationary jaw, as represented by the dotted lines in the drawing at G. The slot in the jaw D, which embraces the bar is made larger than usual, so as to admit of this swinging motion and yet act as a guide to the binding jaw. The faces of the two jaws between which the object to be griped has its place may be hardened and roughened so as to exert the greatest possible friction. The action of the wrench is as follows: The object to be griped—a rod, for instance—being placed between the jaws, they are made to embrace it by means of the action of the thumb upon the screw; then, upon endeavoring to turn the rod by means of the wrench, the slighest contact is sufficient to induce a motion of the entire jaw D upon the hinge at B towards the stationary jaw, increasing its binding power by the increase of strain and holding the object firmly between the two jaws, releasing it instantly by a revolution in the opposite direction. This wrench has nothing to prevent its satisfactory use upon the ordinary square nut when its griping power is not required, and yet at all times the firmness with which it embraces any object is an argument in its favor. The distance of the centre of motion from the face of the movable jaw in this wrench admits of a greater power being exerted with the greatest leverage and the smallest amount of friction, and the entire face of both jaws is brought to bear upon the object grasped between them. A spring is inserted at E to keep the swinging jaw in its normal position, that it may always be in readiness to gripe.

I do not claim broadly a swinging jaw, nor do I claim a hinge as hitherto constructed, but what I claim as my invention and desire to secure by letters patent is providing the socket *c* of the
175 screw with a pivot or hinge, substantially in the manner and for the purpose specified.

HENRY I. BEHRENS.

Witnesses:
WM. P. CHAMBERS.
GARRET D. KING.

# H. J. Behrens,

## Wrench.

No. 24,175. Patented May 24, 1859.

Fig. 1

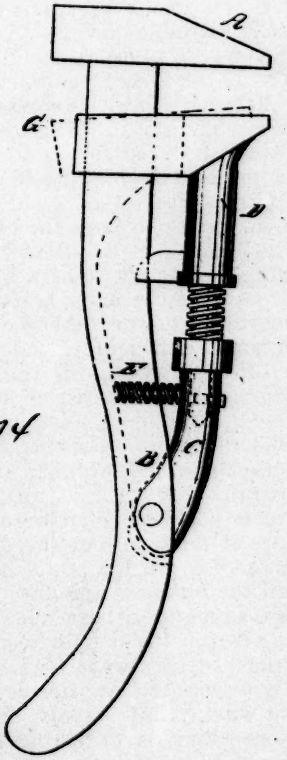
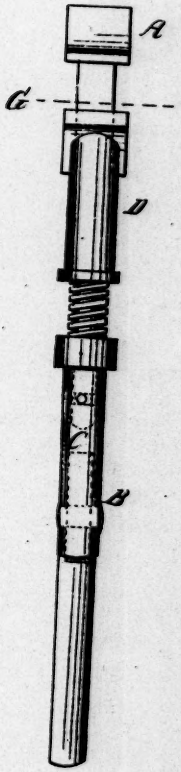



Fig: 2.




No. 164. Collins Co. v. Cors et al. } p. 174

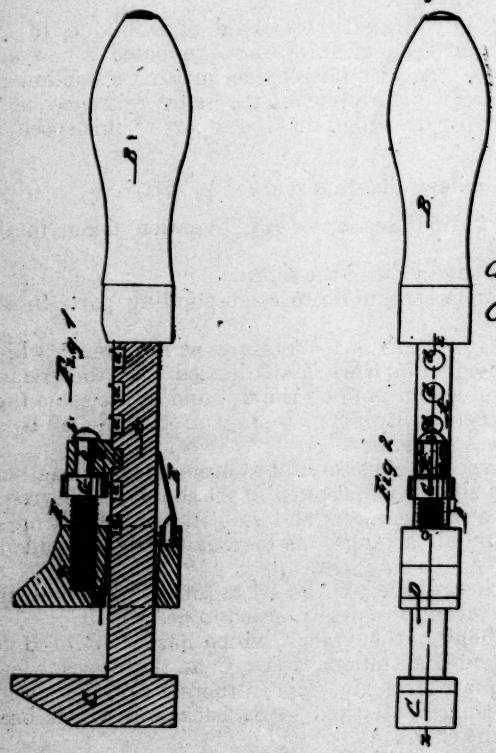
Witnesses
Wm P Chambers
Garrit D King

Inventor:
Henry J. Behrens

A. Y. Mc Donald, 175

Wrench.

No. 38,316. Patented Apr. 28, 1863.




No. 164. Collins Co. v. Cox et al. } p. 17

Witnesses:
J. W. Coombs
G. W. Reed

Inventor:
Andrew Y. McDonald
per Munn & Co
attorneys

COMPLAINANT'S EXHIBIT McDONALD'S PATENT. W. H. M., Special Examiner.

*Letters Patent of the United States No.* 38316, *Granted Andrew T. McDonald Apr.* 28, 1863.

## Improved Screw Wrenches.

### *Specification.*

To all whom it may concern:

Be it known that I, Andrew T. McDonald, of Dubuque, in the county of Dubuque and State of Iowa, have invented a new and improved screw wrench; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

(Here follows diagram marked p. 175.)

Figure 1 is a longitudinal section of my invention taken in the line *x x*, figure 2.

Figure 2 is a front edge view of the same.

Similar letters of reference indicate corresponding parts in the two figures.

The object of this invention is to obtain a screw wrench which may be quickly applied to its work and adjusted with the greatest facility, so as to obtain a firm hold on the nut and at the same time be simple in construction, strong, durable, and capable of being manufactured at a reasonable cost.

To this end the invention consists in the employment or use, with a stationary jaw, of a sliding jaw applied to the shank of the wrench in connection with a spring screw and stop, the latter fitting in holes in the shank and all arranged as hereinafter shown and described.

176 To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A represents the shank of the wrench, which has a handle, B, fitted on one end of it and a stationary jaw, C, at the opposite end. The shank A is of square form, and upon it there is placed a sliding jaw, D, having a spring, E, attached to its back end which bears against the back of the shank A.

In the under side of the sliding jaw D there is fitted in an internal or female screw, *a*, a male screw, F, which has a small thumb wheel, G, attached permanently to it, and beyond or below the thumb wheel there is a smooth arbor, *b*, which is a portion of the rod on which the screw *a* is formed or cut. This arbor *b* passes through what may be termed a stop, H, which is simply a square piece of metal having a cylindrical projection, *c*, at its inner side, which fits in any of a series of holes, *d*, in the shank A, as shown in figure 1, and this projection is retained in said holes by the spring E, as will be fully understood by referring to figure 1.

The opening or hole in the sliding jaw is bevelled at the sides adjoining the front and back edges of the shank A, as shown at *a**, in figure 1, in order to admit of said jaw being pressed forward at its lower part to allow the projection *c* to be thrown free from the hole *d* in which it is fitted, and thereby permit the jaw D to be wound on the shank. This may be accomplished by simply pressing the thumb on the back and lower part of said jaw.

The jaw D, therefore, it will be seen, may be very readily adjusted to the nut, and when brought in contact with it said jaw is relieved of the pressure of the thumb, and the spring E draws the projection *c* into the hole *d* in the shank which is opposite to it. The operator then causes the sliding jaw to bind or press firmly against the nut by turning the screw E through the medium of the thumb wheel G, the stop H serving as a bearing for the screw. By this means the nut will be firmly clamped between the two jaws.

I would remark that the outer end of the arbor *b* is headed or provided with a button, *b**, in order to prevent the stop being casually detached from it.

By this invention I obtain a comparatively long movement or adjustment of the jaw D, considerably longer than those of other wrenches of the same size. The jaw D may be quickly and readily applied to its work and the nut firmly grasped between the two jaws C D, and at the same time a strong, durable, and cheap wrench is obtained.

177

Having thus described my invention, what I claim as new and desire to secure by letters patent is the sliding jaw D, provided with the spring E, in combination with the stop H and screw F, the latter being fitted in an internal or female screw, *a*, in the jaw D, and the stop H provided with a projection, *c*, to fit in hole *d* in the shank A of the stationary jaw C, substantially as and for the purpose herein set forth.

A. Y. McDONALD.

Witnesses:
JOHN MORRISON.
ROB'T L. HILL.

COMPLAINANT'S EXHIBIT STENTON'S PATENT. W. H. M., Special Examiner.

*Letters Patent of the United States No.* 56628, *Granted Robert S. Stenton July* 24, 1866.

Improvement in Wrenches.

*Specification.*

To all whom it way concern:

Be it known that I, Robert S. Stenton, of the city of Brooklyn, county of Kings, and State of New York, have invented certain new and useful improvements in wrenches; and I do hereby declare that the following is a full and exact description thereof, reference being

had to the accompanying drawings and to the letters of reference marked thereon.

It has been a matter of considerable consideration among machinists and many efforts have been made to produce a good wrench. Numerous devices have been made and patented, the most of them more or less objectionable. It has been my object to produce
178 for my own use a wrench combining lightness, compactness, strength, and durability, always having in view the practical working of the instrument.

The wrench being made of malleable iron, except the adjusting screw D—I do not, however, confine myself to malleable iron alone, as the wrench may be made of wrought iron or steel or of parts of either wrought or malleable.

I construct my wrench with the handle straight or curved, as seen at Fig. 1. I prefer the curved plan on account of its strength and adaptability to many purposes where the straight wrench could not be used. I also construct the jaws of the wrench A B at an angle of sixty degrees from the plane of the shank C C, thus grasping the hexagon nut on three sides, as seen at Fig. 1. Extending from the rear lower end of the shank *c* at its junction with the handle C I place the projection or screw rest J, which is solid and in one piece, with the handle C and the shank *c*. In making this projection an integral portion of the shank *c* and handle C, I obtain the greatest possible amount of strength at a most important part, a part known to be a most vulnerable one, if not the most so, of a wrench on this principle. All the strain of the downward pressure is borne by this projection, which has hitherto been in the form of a collar or ferrule attached to the bar by means of mechanical contrivances that were in themselves weak or insufficient or weakening in their tendency.

By making this projection J solid and in one piece with the shank and handle I remedy this difficulty and others incidental to the plan of making it detached or in a separate piece. This projection may be in front or rear of either side of the shank, according to the position of the screw, without altering the character of this invention. The handle hereinbefore named is of metal, curved or straight. I prefer to use such; they are stronger, cleaner, and less liable to accumulate dirt or grease. A wrench thus made is constructed with more strength and in fewer pieces, but I can also adapt this principle to a wrench with the ordinary wooden handle. The projection being formed, as now, at the junction of the shank and of the tang
179 and in one piece with them would rest on and in the top of a wooden handle secured to the tang in the usual way by a nut or a riveted washer at the end.

The hexagon has many advantages over the square nut, not only in beauty, but in certain positions it is more easily adjusted in using the ordinary screw wrench with right-angle jaws; you can only grasp two sides of the hexagon nut to overcome the friction of the screw; this is not sufficient in most instances to tighten properly or to loosen the same, as the case may be, without abrading the corners in such a manner as to render the nut useless.

Another cause of abrasion arises from not adjusting the wrench

to fit the nut properly, thus slipping, and by repetition gradually reducing the nuts from the angle to a circle; the first difficulty is certainly removed and the second comparatively so.

It will be seen that the adjusting screw D, see Fig. 2, having its bearings at I and J, the shoulder of the journal resting against the head B and the projection at J, thus supporting and giving additional strength to the head and making the shank almost equal in width to the square of its opening, thus preventing any spring of the shank when in action.

At the lower end of the screw D, I place a nut or rosette or its equivalent D contiguous to the projection J on the handle and shank *c*, so that when the handle is grasped with the hand the nut or rosette can be moved with the thumb to operate the lower jaw of the wrench. A wrench on my principle with the nut of the screw contiguous to the solid projection J can be made without extending the screw beyond the length of the inner jaw by forming a recess in the shank *c* to receive the nut and keep the screw in place. This screw working in the inner jaw may be placed in the rear, in front, or on either side.

It will be observed that the jaw A is made much longer than B from the plane of the shank *c c*, so that when a square object is placed therein the distance will be equal, or as nearly so as is required for all practical uses, from 4 to 5 and 6 to 7, as indicated by the red lines. See Fig. 2.

To enable others skilled in the art to make and use my invention I will proceed to give a full and exact description thereof,
180 reference being had to the accompanying drawings and the letters of reference marked thereon.

(Here follows diagram marked p. 180.)

Figs. 1 and 2 are perspective views of my wrench, showing the manner of gripping the hexagon nut.

Fig. 3 is a perspective view of the same with right-angle jaws.

Similar letters of reference indicate corresponding parts.

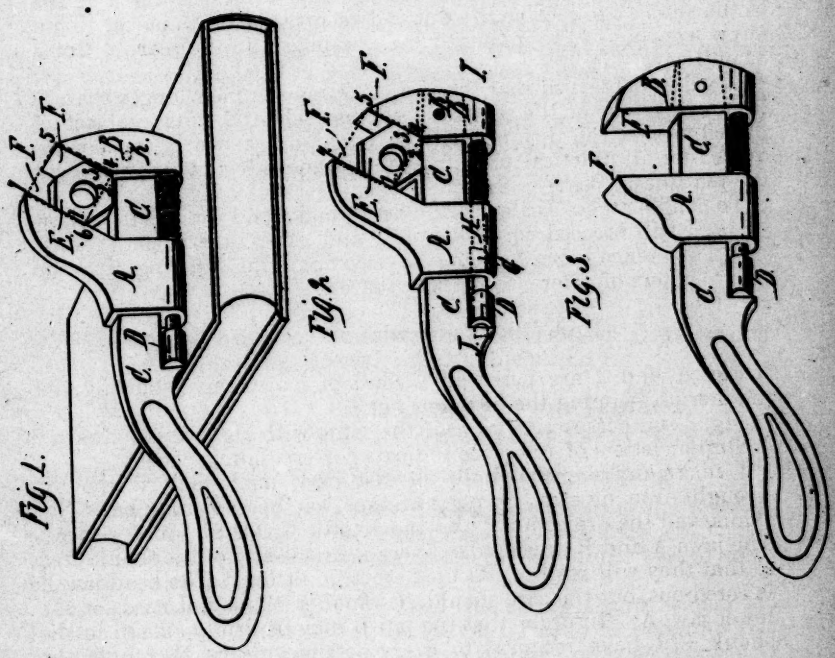
I make my wrench wholly of cast iron, made malleable, or of wrought iron or steel, or parts of each, as the case may be. The shank and the projection J and the handle C C is cast in one piece. The jaws A and B are cored out very near the size of the shank C C, so that they will require but little work in fitting. The head jaw B is cored out, but the core should be smaller than that used for the lower jaw, A. In order that the jaw B may be firmly affixed to the shank C, I have recourse to every possible means to render the wrench as strong at this point as it would be if the head and bar were cast or forged in one piece. In the first place, the head B is made hot, and while in that state, the lower jaw, A, and screw D being in place upon the bar or shank *c* and projection J, the head B is tightly driven down upon the shank *c*, and in cooling shrinks thereon. The hole at the top of the head B being countersunk, the end of the shank is riveted down so as to fill the countersinks. I then drill a hole through the head and shank and insert a steel or

# R. S. Stenton,

## Wrench.

No. 56,628. Patented July 24, 1866.

No. 164.
Collins Co.
v.
Cox et al.
} p. 180




Witnesses;
R. C. de Gannon
Wm. T. Miller

Inventor,
R. S. Stenton

iron pin or screw, which is also riveted on both sides, and finally, if needed before the wrench is polished, I braze them. The jaw A is also cored out at G H. The hole at G is made a little larger, as indicated by the dotted lines, to allow the plain part of the screw to enter; the balance of the hole is tapped for the screw D to work in. The screw D is turned up of wrought iron or steel, and having journals on each end to fit into corresponding holes E J in jaw B and projection at J. See Fig. 2.

Having all the parts fitted, it will be seen that, taking the screw D and giving it a few turns in the movable jaw A, then slipping the said jaw on the shank *c c* and letting the journal into the hole J, then taking the head jaw B and fastening the same, as hereinbefore stated, on the end of the said shank, the other journal on the end of the screw entering the hole E, all is then together, and the wrench when polished is complete.

181 Having thus fully described my invention, what I claim as new and desire to secure by letters patent is—

1st. I claim arranging the jaws upon a straight shank, whether the former be perpendicular or inclined to the latter, and operating the movable jaw by a screw supported at its lower end in a step formed in the solid metal of the shank and with a rosette or its equivalent for turning the same located contiguous to said step, all constructed substantially as set forth.

R. S. STENTON.

Witnesses:
R. V. DE GUINION.
WM. T. MILLER.

COMPLAINANT'S EXHIBIT COMMISSIONER'S STATEMENT CONCERNING COES' 1841 MODEL. W. H. M., Sp'l Ex'r.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of an official letter under date of March 28th, 1879, and that the statement therein contained is correct, to the best of my knowledge and belief.

In testimony whereof I, W. H. Doolittle, acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this fifth day of April, in the year of our Lord one thousand eight hundred and seventy-nine, and of the Independence of the United States the one hundred and third.

[SEAL.]

W. H. DOOLITTLE,
*Acting Commissioner.*

182 ROOM No. —.

All communications should be addressed to the Commissioner of Patents.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., *March* 28, 1879.

SIR: In reply to your letter of 24th inst. you are informed that L. Coes' model, on which was issued his patent for "screw wrench" April 20, 1841, was destroyed by the fire of Sept. 24, 1877.

Respectfully yours,
F. M. SUBT,
*Chief Clerk.*

W. E. Simonds, Esq., Hartford, Conn.

COMPLAINANT'S EXHIBIT PATENT OFFICE ORDER CONCERNING REJECTED APPLICATIONS. W. H. M., Sp'l Ex'r.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of the special order dated Feb. 4, 1876, in the matter of rejected and abandoned applications.

In testimony whereof I, W. H. Doolittle, acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this second day of April, in the year of our Lord one thousand eight hundred and seventy-nine, and of the Independence of the United States the one hundred and third.

W. H. DOOLITTLE,
*Acting Commissioner.*

*Special Order.*

In view of the more recent interpretations put upon the law in relation to rejected and abandoned applications, they being no
183 longer held as a bar to the issue of a patent and no notice being taken of them in an examination of pending applications, it is ordered that the files, drawings, and models of such applications and all records pertaining thereto be kept in the secret archives of the office. No such model, drawing, or file will be exhibited to any person except the applicant or his properly authorized attorney.

R. H. DUELL,
*Comm'r of Patents.*

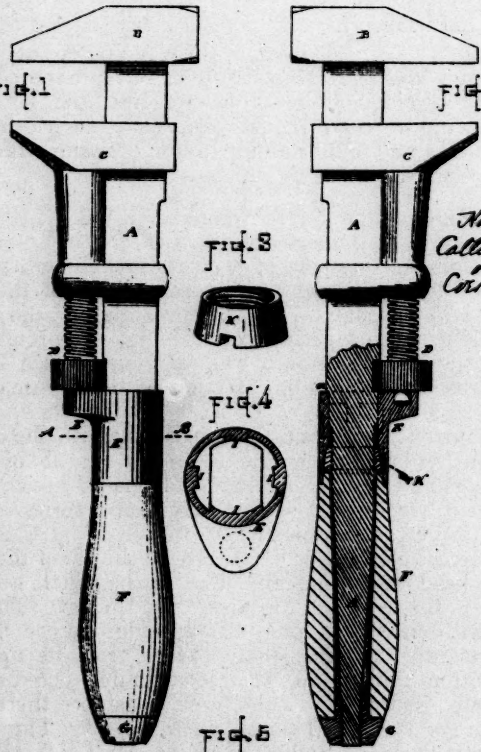
U. S. Patent Office, Washington, D. C., Feb. 4, 1876.

183

AURY G. COES.

Improvement in Wrenches

No. 122,108. Patented Dec. 26, 1871.




No. 164 Collins Co. & Cors et al. } p. 183

Witnesses

Thos. H. Dodge

Thos. W. Burleigh

Inventor

Aury G. Coes

COMPLAINANT'S ILLUSTRATIVE EXHIBIT. W. H. M., Sp'l Ex'r.

*Letters Patent of the United States No.* 122,108.

AURY G. COES, of Worcester, Massachusetts.

*Improvement in Wrenches.*

Specification forming part of Letters Patent No. 122,108, dated December 26, 1871.

To all whom it may concern:

Be it known that I, Aury G. Coes, of the city and county of Worcester and Commonwealth of Massachusetts, have invented certain new and useful improvements in screw wrenches; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms a part of this specification and in which—

(Here follows diagram marked p. 183.)

Figure 1 represents a side view of a screw wrench embracing my improvements. Fig. 2 represents a central section of the wrench handle, ferrule, and bar shank. Fig. 3 represents, on a larger scale, a perspective view of the tapering collar. Fig. 4 represents, on a similar scale, a transverse section of the ferrule at line A B, Fig. 1, and Fig. 5 represents a longitudinal section of the ferrule on a like scale.

The nature of my invention consists, first, in the combina-
184 tion, with the bar and ferrule in a screw wrench, of a tapering supporting collar, as hereinafter described; second, in the combination, with the interior of the ferrule, of a series of wedge-shaped flanges, as hereafter set forth.

In the drawing the part marked A represents the bar of the wrench. B indicates the head; C, the movable jaw; D, the rosette and screw; E, the ferrule; F, the wood handle, and G the tip nut. The ferrule E is provided with a series of longitudinal wedge-shaped flanges, I, formed upon its inner surface, which extend from its upper part nearly to the bottom thereof, with their lower ends tapered off in the manner illustrated in Fig. 5. In the present instance there are four flanges, but more or less may be used when desired. The shank of the bar A is screw-threaded, and a tapering collar, K, is screwed onto said shank, which collar is formed of a corresponding bevel and fits up against the wedge-shaped ends of the flanges I in the lower part of the ferrule, and when the collar K is turned up tightly into place it binds the parts firmly together and supports them in position. The collar is set up into the interior of the ferrule sufficiently far to leave a small rim of the ferrule to support the wood handle F in proper position (see Fig. 2), said handle being retained upon the shank by the tip nut G in the ordinary manner. The upper part of the ferrule E is made to fit close around the bar A at the shoulder

*a;* and it will be observed that by means of the tapering collar K set into its lower part, as illustrated, the ferrule is held firmly up against the shoulder *a*, and at the same time its lower portion is supported against any lateral movement or strain, so that when the wrench is in use the backward pressure of the jaw C through the rosette screw D cannot crowd the ferrule back onto the wood handle nor cause the ferrule to tip or incline to one side, as is sometimes the case when the wood handle is depended upon for supporting the lower end of the ferrule or the ferrule is supported near its upper part by a nut or otherwise; neither can the lower part of the ferrule be crushed in or flattened by resting or dropping heavy pieces of machinery upon the sides of the wrench. It will also be observed, especially by those skilled in the art to which my invention belongs, that the lower part of the ferrule will, by turning up the tapering collar K, always be adjusted to a position concentric with the axis of the bar A, so that the handle will always fit straight upon the bar and the joint at the ferrule will be uniform at all sides. By making the ferrules with flanges I they are comparatively very light, while at the same time they possess the required amount of strength.

185

Having described my improvements in screw wrenches, what I claim therein as new and of my invention and desire to secure by letters patent is—

1. The combination, with the bar A and ferrule E, of the tapering, centering, and supporting collar K, substantially as and for the purposes set forth.

2. The combination, with the ferrule E, of a series of wedge-shaped flanges, I, substantially as and for the purposes set forth.

AURY G. COES.

Witnesses:
THOS. H. DODGE.
CHAS. H. BURLEIGH.

*Letters Patent of the United States No.* 114,505, *Granted Aury G. Coes, of Worcester, Mass., May* 2, 1871.

*Improvement in Wrenches.*

The schedule referred to in these letters patent and making part of the same.

To all whom it may concern:

Be it known that I, Aury G. Coes, of the city and county of Worcester and Commonwealth of Massachusetts, have made certain new and useful improvements in wrenches; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms a part of this specification, in which—

(Here follows diagram marked p. 185.)

Figure 1 represents a side view of my improved wrench, and Figure 2 represents a central section of the same.

# A. G. COES.

## Improvement in Wrenches.

No. 114,505. Patented May 2, 1871.

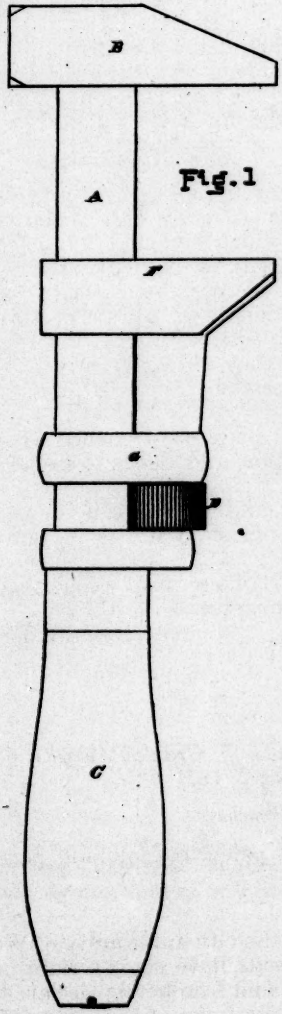



Fig. 1

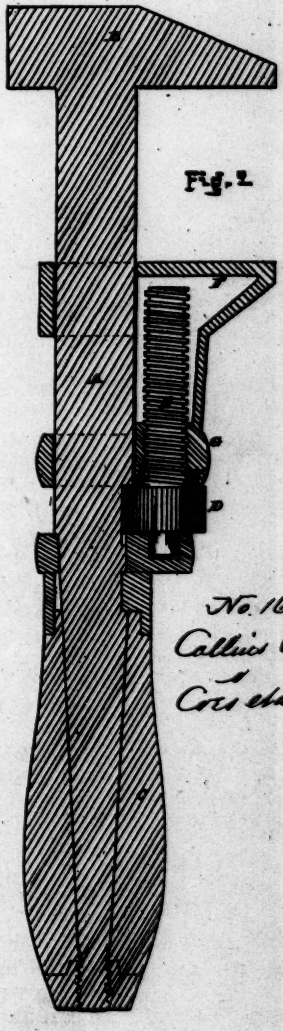



Fig. 2

No. 164. Collins Co. v. Coes et al. } p. 185.

Witnesses

Chas. Pearleigh

A. E. Pierce

Inventor

Aug. G. Coes

*a;* and it will be observed that by means of the tapering collar K set into its lower part, as illustrated, the ferrule is held firmly up against the shoulder *a*, and at the same time its lower portion is supported against any lateral movement or strain, so that when the wrench is in use the backward pressure of the jaw C through the rosette screw D cannot crowd the ferrule back onto the wood handle nor cause the ferrule to tip or incline to one side, as is sometimes the case when the wood handle is depended upon for supporting the lower end of the ferrule or the ferrule is supported near its upper part by a nut or otherwise; neither can the lower part of the ferrule be crushed in or flattened by resting or dropping heavy pieces of machinery upon the sides of the wrench. It will also be observed, especially by those skilled in the art to which my invention belongs, that the lower part of the ferrule will, by turning up the tapering collar K, always be adjusted to a position concentric with the axis of the bar A, so that the handle will always fit straight upon the bar and the joint at the ferrule will be uniform at all sides. By making the ferrules with flanges I they are comparatively very light, while at the same time they possess the required amount of strength.

185

Having described my improvements in screw wrenches, what I claim therein as new and of my invention and desire to secure by letters patent is—

1. The combination, with the bar A and ferrule E, of the tapering, centering, and supporting collar K, substantially as and for the purposes set forth.

2. The combination, with the ferrule E, of a series of wedge-shaped flanges, I, substantially as and for the purposes set forth.

AURY G. COES.

Witnesses:
THOS. H. DODGE.
CHAS. H. BURLEIGH.

*Letters Patent of the United States No.* 114,505, *Granted Aury G. Coes, of Worcester, Mass., May* 2, 1871.

*Improvement in Wrenches.*

The schedule referred to in these letters patent and making part of the same.

To all whom it may concern:

Be it known that I, Aury G. Coes, of the city and county of Worcester and Commonwealth of Massachusetts, have made certain new and useful improvements in wrenches; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms a part of this specification, in which—

(Here follows diagram marked p. 185.)

Figure 1 represents a side view of my improved wrench, and Figure 2 represents a central section of the same.

# A. G. COES.

## Improvement in Wrenches.

No. 114,505. Patented May 2, 1871.

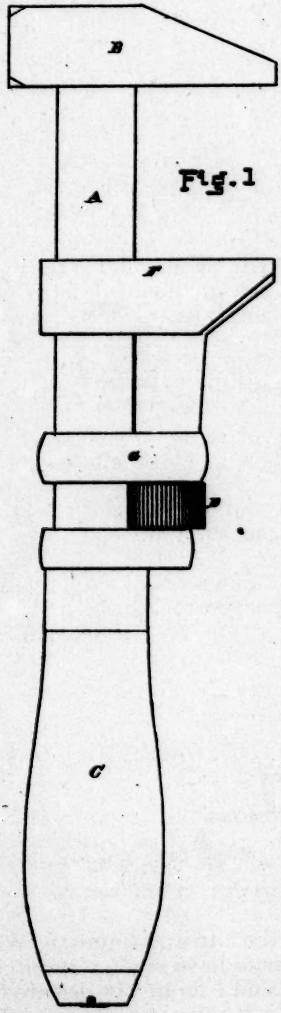



Fig. 1

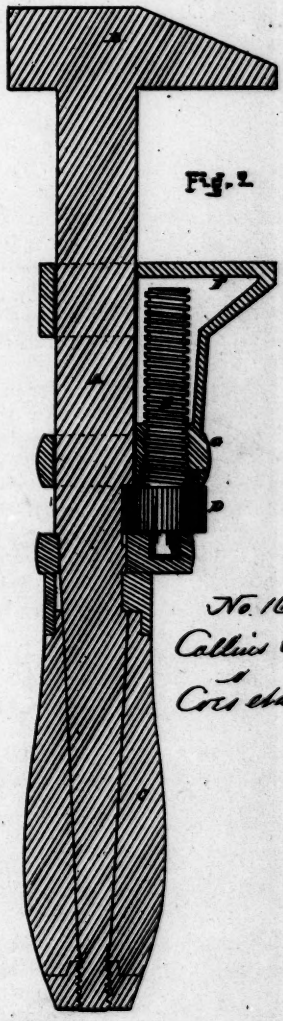



Fig. 2

No. 164. Collins Co. & Coes et al. } p. 185.

Witnesses

Chas. Burleigh

A. E. Pierce

Inventor

Aury G. Coes

To enable those skilled in the art to which my invention
186 belongs to make and use the same, I will proceed to describe it more in detail.

The nature of my invention consists in forming the rear portion of the movable jaw with a counterbore around the screw opening, as and for the purposes hereafter described.

In the drawing—

The part marked A represents the wrench bar;

B indicates the head;

C indicates the handle;

D, the rosette; and

E, the screw, which parts may be made in any of the well-known forms.

F indicates the movable jaw in the rear part G, which works the screw E.

The opening in the rear part G, into which the screw E passes, is enlarged or counterbored for a short distance from the outside, as shown at K, Fig. 2, so as to permit of the rear part G of the jaw F being run back against the rosette D, whereby the wrench is enabled to receive a larger-sized nut than it otherwise would.

The counterbore K prevents the rear part G from binding or becoming set upon the imperfectly cut portion of the screw thread next to the rossette D—a thing which is of frequent occurrence in the ordinary wrenches and a source of annoyance and vexation to the operator.

It will be observed that the rear part G is cast solid for a greater distance than in the ordinary wrenches, so that the counterbore K does not weaken the hold of the screw thread upon the thread of the jaw.

Then, again, the base of the screw E is left full size at its junction with the rosette D; or, if preferred, it may be made with a rounded corner, whereby additional strength may be obtained at that portion of the screw rod which is subjected to the greatest strain.

Another advantage resulting from my improvement is that there is less liability of stripping the threads in cutting the screws, caused by running the tool against the rosette, since, as before stated,
187 the base of the screw rod E may be left full size without interfering with the movement of the sliding jaw.

Having described my improvement in wrenches, what I claim therein as new and of my invention and desire to secure by letters patent is—

The combination, with the movable jaw F G and rosette screw D E, in a screw wrench, of the counterbore K, around the screw opening, substantially as and for the purposes set forth.

AURY G. COES.

Witnesses:

CHAS. H. BURLEIGH.

A. E. PIERCE.

*Letters Patent of the United States No.* 100,602, *Granted Aury G. Coes, of Worcester, Mass., March* 8, 1870.

*Improvement in Wrenches.*

The schedule referred to in these letters patent and making part of the same.

To all to whom these presents shall come:

Be it known that I, Aury G. Coes, of the city and county of Worcester and State of Massachusetts, have made an invention of certain new and useful improvements in wrenches, and do hereby declare the following to be a full, clear, and exact description thereof, due reference being had to the accompanying drawings, making part of this specification, and in which—

(Here follows diagram marked p. 187.)

Figure 1 is a perspective representation, and

Figure 2, a longitudinal section of a wrench in which my improvements are embodied.

Figure 3 is a section of a portion of the same on an enlarged scale or full size, the more clearly to illustrate one feature of my invention.

The improvements herein described are based upon a class of wrenches now in extensive use, known as screw-wrenches, and
188 which consist briefly of a stationary end jaw, making part of an attenuated bar, upon which the movable jaw slides to and fro thereon with respect to the stationary jaw, the movement of such movable jaw being effected by means of a screw which passes through it and which is pivoted or connected to the lower part of the bar and stepped within a suitable bearing applied thereto to prevent its displacement.

My present improvements have reference to the peculiar arrangement of the step of the screw, and of the nut which confined such step in place, by which economy in manufacture and finish in appearance is secured.

In carrying out my present invention I have selected as a basis wherewith to illustrate its utility a wrench shown and described in letters patent of the United States numbered 50364 and dated October 10, 1865.

In this wrench the ferrule which screws upon the shank of the bar and confines the step of the movable jaw screw in position is composed of a polygonal portion, which serves as a nut whereby to secure it upon the shank, and with a cylindrical portion to coincide with the end of the handle which enters it.

In such a construction of parts I have found that the block, owing to its diversified face, is much more difficult to produce in bulk, and especially more difficult and expensive to finish than when constructed as contemplated by the second portion of my invention.

A. G. Coes. 187

Wrench.

No. 100,602. Patented Mar. 8, 1870.

Fig: 1

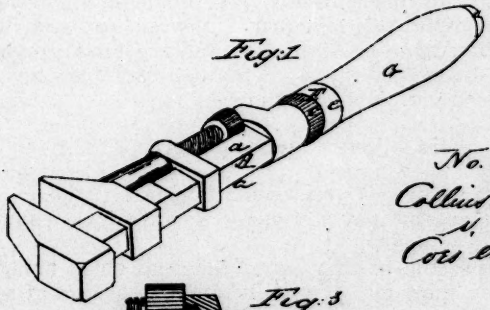


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Fig: 3

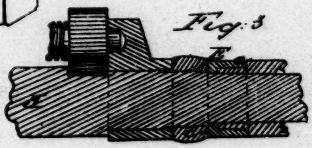
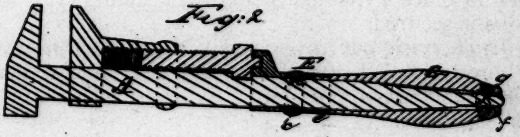


Fig: 2



Witnesses
Edward Griffith
Geo A Leonig

Inventor
Amry G. Coes
by his Attorney
Frederick Curtis

In order to carry my invention into effect, I produce the ferrule E in two parts, the upper one, *c*, or that abutting against the lower end of the bar of the wrench, or a shoulder, *b*, formed thereupon, being cylindrical in cross-section and milled, in order to serve as a means to screw it upon the screw *d*, cut upon the shank, and the lower portion or that denoted by the letter *e* in the drawings being also cylindrical in order to correspond to the end of the handle G, which should preferably extend a short distance into it.

The portion *e* of the ferrule may or may not screw upon the shank, and the extreme lower end of the shank should be provided with a screw, *f*, upon which is screwed a nut, *g*, to secure the handle firmly in place.

A ferrule made as described will be found to answer all the
189 useful purposes of the patented one before mentioned, while it is susceptible of being produced with a high degree of finish and at much less cost than such patented one.

Although, to the uninitiated, my present improvement may seem trifling and unimportant, yet my experience as a manufacturer has demonstrated the fact that in a large number of wrenches the difference in cost between the two forms of ferrule hereinbefore described is a matter of considerable importance, while the improved finish of the nut portion of said ferrule and the reduced weight of the shank render a wrench thus provided much more desirable than under any form heretofore adopted.

What I claim and desire to secure by letters patent is—

The combination, with the handle G and shank of the wrench, of the ferrule E, composed of the two independent portions *c* and *e*, substantially as and for the purposes set forth.

AURY G. COES.

Witnesses:
FRED. CURTIS.
EDWARD GRIFFITH.

*Letters Patent of the United States No.* 87547, *Granted Loring Coes, of Worcester, Mass., March* 9, 1869.

*Improvement in Wrenches.*

The schedule referred to in these letters patent and making part of the same.

To all whom it may concern:

Be it known that I, Loring Coes, of Worcester, in the State of Massachusetts, have invented a new and useful improvement in the construction of monkey-wrenches, and that the following is a full, clear, and exact description and specification of my invention.

The object of my invention is to enable the lower bearing of the screw of the movable jaw to be secured to the shank of the fixed jaw at a small cost and efficiently.

To this end my invention consists of the combination of the ferrule that carries the screw bearing with the shank of the fixed jaw

by means of a projection on said ferrule and a corresponding projection upon said shank, in such manner that when the said ferrule is applied to the said shank the movement of the screw bearing along the shank in the direction of the length of the screw is prevented by the said projections.

My invention consists, further, of the combination of the said ferrule, the shank, and the projections on the ferrule and shank with the handle that surrounds said shank in such manner that the said handle when in place prevents the disengagement of the said projections.

My invention may be embodied in several ways, and the monkey-wrench represented in Figs. 1, 2, 3, and 4 of the drawings is an example of one mode of carrying my invention into practical effect—

(Here follows diagram marked p. 190.)

Figure 1 being a side view of said monkey-wrench,

Figure 2 being a longitudinal section of a part of it, and

Figures 3 and 4 representing sections of it at the lines *x x* and *y y* of Fig. 2.

The said monkey-wrench has a fixed jaw, A, projecting from a stem, B, which terminates in the shank C, to which the wooden handle D is secured.

The movable jaw A′ is constructed to slide upon the stem B of the fixed jaw in the usual manner, and is moved by a screw, E, whose lower end is supported by the bearing *f*.

This bearing projects from a ferrule, G, whose interior is constructed with a projection, *e*.

The shank C also is constructed with a projection, *r*, forming the lower shoulder of a notch in the shank C.

The space between the inside of the projection *e* and the inside of the opposite side of the ferrule G is at least as great as the size of any part of the shank between the ferrule and the extreme end of the shank, so that the ferrule may be slipped over the projection *r* of the shank.

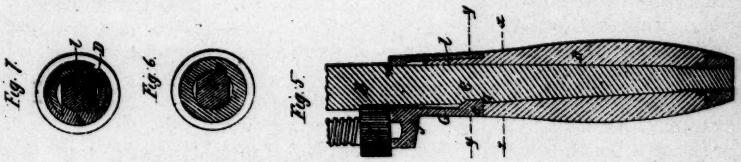
When the ferrule is thus engaged the ferrule may be rocked slightly to cause the face of its projection *e* to bear against the adjacent face of the shank and be thus inside of the outside of
191 the projection *r* of the shank; then a filling piece, *s*, is inserted between the projection *e* of the ferrule and the projection *r* of the shank C, so that the endwise pressure of the screw is transmitted from the projection of the ferrule to that of the shank and the ferrule is prevented from being shoved off the shank by the pressure of the screw E.

When the ferrule is thus in place it and the filling piece may be prevented from disengaging by means of the handle D, which, for this purpose, is constructed with its inner end *l* of the right size to enter within and fill the space between the interior of the ferrule and side of the shank opposite to the projection *e*, so that when the handle is in place it prevents the filling piece *s* from moving laterally off the shank, and also prevents the ferrule from rocking, so that its projection can disengage.

# L. Coes.

## Wrench.

No. 87,547. Patented Mar. 9, 1869.

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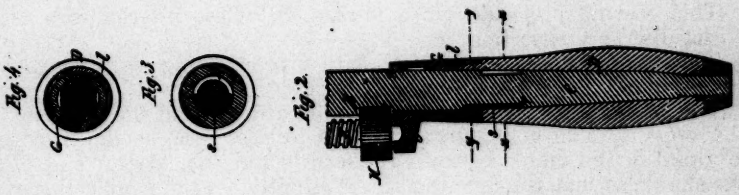
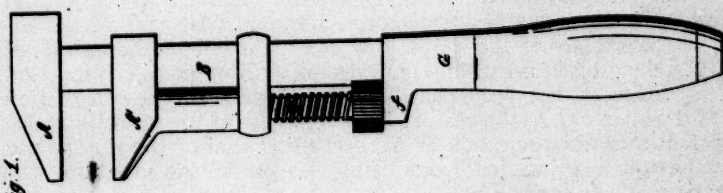


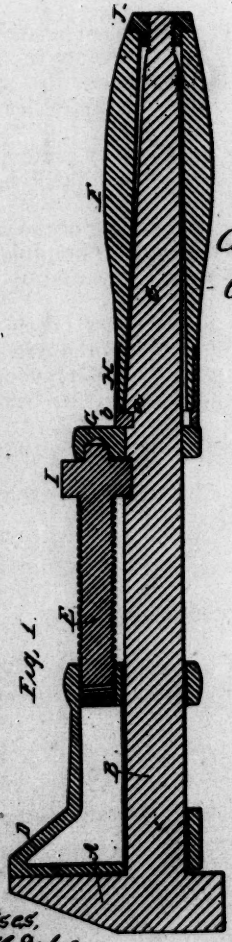

Witnesses;
Alex Rathbone Jr
Chas H. Leonard

Inventor;
Loring Coes
by his att.
E. S. Hamrick

# A. G. Coes,

## Wrench.

No. 52,968. Patented Mar. 6. 1866.

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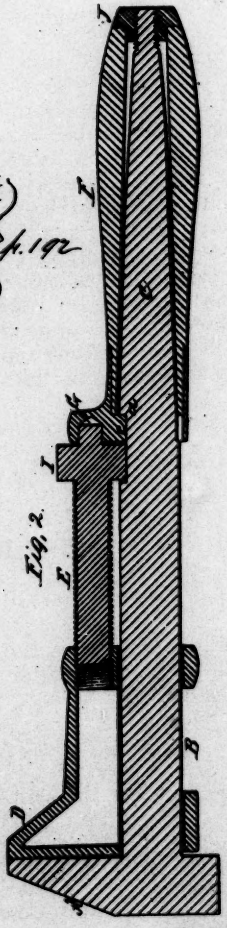


Witnesses,
Thos. H. Dodge
[illegible]

Inventor,
A. G. Coes

Instead of inserting a filling piece between the projection of the ferrule and the projection of the shank the parts of the wrench may be formed as represented in Figs. 5, 6, and 7.

In this example the projection *r* of the shank C is arranged close to the position of the projection *e* of the ferrule G, so that the latter bears against the former when the ferrule is rocked into its place after being applied to the shank.

The disengagement of the projection of the ferrule is prevented, as in the other example, by the handle D.

In both of said examples the shank C is constructed smaller than the stem B, so as to form a shoulder, *n*, which prevents the ferrule G from being moved upon the stem B. Moreover, the stem is notched to admit and form an inner bearing for the milled wheel H, by which the screw is turned.

Having thus described two modes in which I have contemplated the application of the principle of my invention, what I claim as new and desire to secure by letters patent is—

The combination of the ferrule of the screw bearing of the wrench with the shank of the fixed jaw thereof by means of the projections formed, respectively, upon the interior of said ferrule and upon the shank, substantially as before set forth.

Also the combination of said ferrule of the screw bearing, the shank, and the projections with the handle of the wrench in
192 such manner that the handle, when in place, prevents the disengagement of the said ferrule, substantially as before set forth.

In testimony whereof I have hereto set my hand this 4th day of February, A. D. 1869.

LORING COES.

Witnesses:
J. HENRY HILL.
JOHN W. WASHBURN.

(Here follows diagram marked p. 192.)

193 The following is the opinion of the court in accordance with which the petition to vacate decree, etc., filed December 7, 1880, was denied:

*Opinion of the Court.* (*May* 21, 1881.)

Circuit Court of the United States, District of Massachusetts. In Equity.

THE COLLINS COMPANY *vs.* LORING COES *et al.* } No. 573.

LOWELL, *J.*:

An interlocutory decree was entered in this cause some months since that certain of the claims of the patent sued on, which was reissue No. 5294 of patent No. 50364, granted to Lucius Jordan and

Leander E. Smith, and by them sold and assigned to the plaintiffs, were valid, and that one of them had been infringed. The improvement consisted in adding to the well-known "Coes" wrench a nut under the step plate, by which much of the strain upon the wooden handle of the wrench was diverted to the main iron bar. This was new and useful. The accounting has not been had and, of course, no final decree has been rendered.

The defendants now petition for leave to open the case and file an additional answer setting up the newly discovered fact, as they believe it to be, that Lucius Jordan, one of the patentees, was the sole inventor of the improvement.

Jordan and Smith were partners in the manufacture of wrenches, and Smith advanced money for expenses at the Patent Office,
194 and they agreed to be joint owners of the patent; but the defendants aver that this was merely a business arrangement, and that the application should have been made by Jordan alone, accompanied by an assignment of the invention to himself and Smith. The law is so, if the facts are as they are assumed to be.

Jordan's affidavit that he was the sole inventor is filed, and other affiants testify that they have heard Jordan speak of himself as the inventor and never heard Smith make any such pretension; that the talk of the shop at the time the patent was obtained was that Jordan made the invention.

Jordan swore, on his application for the patent, that both were inventors, and he has sold the joint patent and received his share of the money. Smith is dead. The transaction is not recent. Under these circumstances, if the defendants' affidavits alone and uncontradicted were the evidence at a final hearing, they could hardly avail to persuade me that the invention was wholly Jordan's; but they are met not only by proof that Jordan and Smith have repeatedly spoken of the invention as joint, but by affirmative evidence that Smith made a wrench, before Jordan began to experiment, in which the step plate was sustained by a set screw at the place where the patent puts the nut. After this the partners talked over the matter and consulted, and the joint application was made. Upon these affidavits the defendants contend that Smith was the sole inventor, which is equally useful for their purpose.

I suppose that the wrench which Smith made would be an infringement of the patent, but that does not prove that it anticipated the patent. The nut is decidedly better for the purpose of the improvement than the set screw. If the Smith wrench had been made by a third person and had proved to be useful it would have limited the scope of the patent, and it would have the same
195 effect if invented by Smith himself; but upon the affidavits it was merely an experiment on the way to the completed invention and has no effect at all.

In this state of the case there is but one argument for opening the case: that another action is pending by the plaintiffs against different defendants, in which these matters may be investigated; and if it should turn out, upon the hearing of that case, that the

patent is void it would work a great hardship upon these defendants to be obliged to pay damages and to be enjoined when all the rest of the world could use the invention.

The plaintiff corporation meets this point by saying in its printed brief that it is willing to defer taking the final decree in this cause until time has been given to bring that cause to a hearing. Even without such a stipulation I do not find that enough doubt is thrown by the affidavits upon the soundness of the original decree to require me to open it; but, with that understanding, no possible ground is left for such action.

Leave to open the cause refused.

196 The following is the opinion of the court in accordance with which the interlocutory decree for an injunction and reference to a master was entered:

*Opinion of the Court.* (*July* 24, 1880.)

Circuit Court of the United States, District of Massachusetts. In Equity.

THE COLLINS COMPANY
*v.*
LORING COES *et al.*
No. 573.

LOWELL, *J.*:

This suit is brought upon the second reissue, No. 5294, February 25, 1873, of a patent issued to Lucius Jordan and Leander E. Smith in 1865, No. 50364. The first reissue is not in evidence, and the propriety and regularity of the second is not attacked.

The invention relates to wrenches having a movable jaw, commonly called monkey-wrenches. Loring Coes, one of the defendants, made and patented the great improvement in these tools more than forty years ago, and his wrenches have superseded the older forms, and are familiar to all machinists. He arranged a rod parallel to the main bar, and upon this rod worked the movable jaw by means of a rosette which did not move up and down, but remained constantly in a convenient position close to the thumb of the operator.

Coes made a plate of iron called the step plate, which fitted over the main bar and projected on one side to receive the rod which was pivoted into it. On the side towards the hand this step plate
197 had a recess operating as a ferrule to receive the wooden handle or sleeve, which was shipped over the iron bar and secured by a nut at the end. The handle and its nut kept the step bar in place.

The improvement set forth in the reissued patent of the plaintiffs may be said to consist of cutting the step plate in two lengthwise and putting a screw thread upon the part nearest the hand, which thus becomes a nut, having a recess for the wooden handle. The utility of this change is said to be: 1. That the step plate is secured by the upper nut independently of the nut at the end of the handle,

and thus, if the handle becomes loose, the smooth and regular working of the rod on the step plate is not affected. 2. That, by securing the step plate to the main bar or iron body of the wrench by this independent nut, much of the strain which in Coes' wrench is brought upon the wooden handle, which is the weakest part of the tool, is transferred to the solid iron bar. The evidence bears out this claim of utility. The same result of transferring the strain to the bar has since been reached by G. C. Taft in a patent now owned by the defendants, but in a wholly different way.

It is ably argued for the defendants that the mere addition of a nut to the Coes wrench has not invention enough to be patentable. Considering, however, that the change, simple as it seems, was not made for some twenty-five years after Coes' wrench was patented and came into common use, and that there appears to be a value in it which others have obtained in a different way, it seems to me that the combination is new and useful in the sense of the patent law.

There is a disputed question of fact whether the "Dixie" wrench had a nut which resembled the plaintiffs. That was not a patented tool, but was made and sold to a considerable extent before the Coes wrench became known. It seems to me to be proved that this
198 wrench was sometimes made with a nut into which the handle of the wrench was inserted; but it was not always made so, and the specimen in court does not have that construction. The Dixie wrench defeats the second claim of the reissued patent in suit, which is broadly for a nut combined with the wrench bar and recessed to receive the handle. But there is no reason to suppose that the assignors of the plaintiffs knew of this form of wrench, which had been superseded by the Coes tool long before their original patent was granted.

Nor does it appear that the Dixie wrench with a recessed nut was well known to all competent mechanics. This was not a Coes wrench. It had no rod parallel to the bar, but the movable jaw was worked upon the bar itself—a form of tool which no one has been willing to use since Coes' invention was made public. Therefore the plaintiffs' wrench is not, or was not when made, such a mere obvious appropriation of the Dixie nut for the use of the Coes wrench as to be an alternative fairly within the knowledge of a constructor.

The first claim of the plaintiffs' patent is: "The step, combined with the wrench bar and supported by the nut F or its equivalent, at the place where the step is connected with the bar, in such manner that the step can be removed from the bar without cutting or abrasion of parts.

The last clause of this claim refers to a statement in the specification that steps (that is, step plates) have before been made solid with the bar, and that others had been riveted to reach a similar result. This narrative of what was old appears to have been inserted by order of the Patent Office, and it is doubtful whether such solid or riveted step plates had, in fact, been used, though they had been described in rejected applications for patents. The courts have no right to disregard such a disclaimer, without which the

patent might never have been granted, and the fact that
199 some such wrenches had been made is taken for granted by me; but I still think the movable nut a patentable improvement.

The defendants have used the old Coes recessed step plate, with the addition of a small nut inserted in the recess. This is plainly an infringement of the first claim, because the nut performs the usual office of a nut, and the recess in the step plate, though old, was not before combined with a nut at this point; and it makes no difference, in the combination of the step plate and nut, whether you put the recess into the one or the other. The old nut at the end of the handle is not the equivalent of this nut because it does not do all the work; it is present in both wrenches, and its addition in the plaintiffs' wrench is the improvement.

The third claim is very like the first, but seems to be intended to claim the combination when a nut exactly like that described in the patent is used. This claim is not infringed.

Interlocutory decree for the complainants.

200 The following is the opinion of the court referred to in the final decree entered in this cause September 3, 1884:

*Opinion of the Court.* (*July* 30, 1884.)

Circuit Court of the United States, District of Massachusetts. In Equity.

COLLINS COMPANY
*v.*
JOHN H. COES *et al.* } No. 1499.

Before Gray and Nelson, JJ.

GRAY, *J.:*

This is a bill in equity for the infringement of the first claim in the specification of the second reissue to the complainant, dated February 25, 1873, of letters patent originally issued to Lucius Jordan and Leander E. Smith, on October 10, 1865, for an improvement in wrenches.

The wrench, as described, both in the original patent and in the reissue, has the following parts: The wrench bar A, the upper part of which is of the usual shape and has attached to it the moveable jaw B, and the lower part of which is of convenient form to receive upon it the wooden handle; a screw rod, C, parallel to the main bar; a rosette, D, at the lower end of the screw rod, by means of which the movable jaw is worked; a ferrule or step, E, having a hole through it for the admission of the bar and a recess in its
201 upper face as a bearing for the lower end of the screw rod; a nut, F, screwed on a thread in the bar under the step and having a recess in its under face to receive the top of the wooden handle G; and the wooden handle, secured at its lower end to the main bar by a nut in the usual way.

Both the original patent and the reissue state that the object of the invention is to make the strain come upon the nut F instead of coming upon the wooden handle. The original patent states that the nut F is, and the reissue states that it may be, screwed up firmly against the step E. The reissue affirms and repeats that the distinguishing characteristic of the invention is that the step can be readily removed and replaced at pleasure. There is no hint of such a distinction in the original patent.

The first claim in the original patent is for "The step E, made substantially as described and for the purpose set forth." The corresponding claim in the reissue is for "The step, combined with the wrench bar and supported by the nut F or its equivalent, at the place where the step is connected with the bar, in such manner that the step can be removed from the bar without cutting or abrasion of parts."

The parallel screw rod, with a rosette thereon to work the movable jaw and resting upon a ferrule or step, had been introduced in the original Coes wrench, patented in 1841; and, long before the issue of the patent to Jordan and Smith in 1865, large numbers of the Hewitt or Dixie wrench had been made and sold, in which there was no separate screw rod, and the screw that worked the movable jaw revolved on the main bar, but that screw rested on a ferrule or step which was secured sometimes by driving it on under heavy pressure and sometimes by a nut screwed under it on the bar.

The application to the bar of the Coes wrench, for the purpose of securing and supporting the step and resisting the strain, of
202 a nut already in use for the same purpose on the Hewitt or Dixie wrench lacks the novelty of invention requisite to support a patent, within the decisions of the Supreme Court at the last term, which have in effect overruled the earlier decision of this court in the suit of this complainant against Loring Coes and others, reported in 5 Banning & Arden, 548. Pennsylvania Railroad *v.* Locomotive Engine Safety Truck Co., 110 U. S., 490; Bussey *v.* Excelsior Manuf. Co., 110 U. S., 131; Double-Pointed Tack Co. *v.* Two Rivers Manuf. Co., 109 U. S., 117; Phillips *v.* Detroit, 111 U. S., 604.

The complainant's patent being void for want of novelty, it becomes unnecessary to consider the other defences.

Bill dismissed with costs.

203 *Claim of Appeal and Prayer for Reversal.* (*Filed Nov.* 17, 1884.)

The appeal of The Collins Company, a corporation duly chartered by the State of Connecticut, located and doing business in the town of Canton, in said State.

To the honorable the Supreme Court of the United States:

Said complainant and appellant respectfully showeth—

That on the 5th day of June, 1875, said The Collins Company filed its bill of complaint in the circuit court of the United States for the district of Massachusetts against the above-named defendants and appellees, therein alleging that on the 10th day of Octo-

ber, 1865, Lucius Jordan and Leander E. Smith, citizens of the United States, obtained letters patent of these United States, bearing the date last mentioned and numbered 50364, for a new and useful improvement in wrenches, securing to them and their heirs and assigns the exclusive right to said improvement for the term of seventeen years from and after said date last mentioned; that the entire interest and ownership in said letters patent and all its rights and privileges were assigned to said The Collins Company June 1, 1866; that said original letters patent were lawfully surrendered to the Commissioner of Patents and lawfully reissued in and by reissued letters patent of these United States dated February 22, 1870, and numbered 3852; that said reissued letters patent were lawfully surrendered to the Commissioner of Patents and lawfully reissued in and by reissued letters patent of these United
204 States dated February 25, 1873, and numbered 5294; that said defendants had unlawfully infringed upon the exclusive right secured to said complainant by said reissued letters patent last mentioned, and praying for a decree of injunction and account, as by reference to said bill of complaint will more fully appear.

That said defendants, on the 4th day of October, 1875, filed their answer to said bill of complaint admitting the issue and reissues of said letters patent, as hereinbefore mentioned, not denying said assignment of said original letters patent to said complainant, but denying that said reissues were lawful reissues, and also denying that said Jordan and Smith were the original and first inventors of the improvement described in said letters patent, and denying that said improvement had patentable novelty, and denying that said defendants had infringed said reissued letters patent last mentioned, as by reference to said answer will more fully appear.

That said complainant filed its replication to said answer October 22, 1875; whereupon, said cause being at issue, said parties proceeded to take testimony in support of their respective allegations, and at the October term of said circuit court, A. D. 1879, were fully heard by their counsel, and at the May term of said circuit court, A. D. 1880, an order and decree was made by said circuit court adjudging said letters patent good and valid letters patent, adjudging that said defendants had infringed the same, adjudging that said complainant was entitled to an injunction and account as prayed for in said bill of complaint, and referring said cause for the taking of an account to a master in chancery, and the cause was continued for said master's report.

205 That thereafter, on the 7th day of December, 1880, said defendants filed a petition in said circuit court asking that said decree last referred to be vacated upon alleged new discovered evidence, and thereupon the cause be reheard, together with affidavits in support of said petition; and said complainant also filed affidavits in opposition to the prayer of said petition, and counsel for both parties were heard by said court as to anything prayed for in said petition; and thereupon, on the 21st day of May, 1881, said court made its order and decree refusing the prayer of said petition.

That thereafter, and before any account had been taken by said

master, at the May term of said circuit court, A. D. 1884, a rehearing was had upon said cause before said circuit court, and thereupon, at the term last mentioned, said court made a final order and decree in said cause, wherein it was ordered, adjudged, and decreed that said letters patent are void for want of novelty, and said bill of complaint was dismissed.

Whereupon said complainant and appellant appeals from the whole of said final decree of said circuit court, and respectfully prays that the final decree of said circuit court and the bill, answer, pleadings, depositions, evidence, and proceedings in said cause may be sent to the Supreme Court of the United States without delay, and that the said Supreme Court will proceed to hear the said cause anew, and that the said final decree of the said circuit court and every part thereof may be reversed and a decree made re-
206 versing said final decree with costs, or such other decrees as to the said Supreme Court may seem fit.

Dated at Boston, Mass., this tenth day of November, A. D. 1884.

WM. EDGAR SIMONDS,
*Solicitor and of Counsel for said Complainant and Appellant.*

207 UNITED STATES OF AMERICA, } ss:
*Massachusetts District,* }

I, John G. Stetson, clerk of the circuit court of the United States for the first circuit and district of Massachusetts, certify that the foregoing is a true copy of the record of said circuit court in the cause in equity entitled The Collins Company *v.* Loring Coes *et al.*, in said circuit court determined, and of all proceedings therein, and of the opinions of the court, claims of appeal, and prayer for reversal filed therein.

In testimony whereof I hereunto set my hand and affix the seal of the said circuit court, at Boston, in said district, this eighth day of September, in the year of our Lord one thousand eight hundred and eighty-five, and of the Independence of the United States the one hundred and tenth.

[Seal of the Circuit Court, Massachusetts.]

JOHN G. STETSON, *Clerk.*

208 The United States of America to Loring Coes and Melvin O. Whittier, of the city of Worcester and State of Massachusetts, partners in business in said city of Worcester under the name and style of Loring Coes & Company, Greeting:

You are hereby cited and admonished to be and appear at a Supreme Court of the United States to be holden at Washington on the second Monday of October next, pursuant to an appeal claimed and allowed by the circuit court of the United States for the district of Massachusetts, wherein The Collins Company, a corporation duly chartered by the State of Connecticut, is complainant and appellant and you are defendant, to show cause, if any there be, why the decree rendered against the said complainant in said cause should not be

reversed and why speedy justice should not be done to the parties in that behalf.

Witness the Honorable Le Baron B. Colt, circuit judge of the United States for the first judicial circuit, this eighth day of September, in the year of our Lord one thousand eight hundred and eighty-five.

LE BARON B. COLT,
*U. S. Circuit Judge, First Judicial Circuit.*

Sufficient service of the foregoing citation is hereby acknowledged.

GEO. L. ROBERTS,
*Solicitor for Appellees.*

Endorsed on cover: Massachusetts C. C. U. S. No. 164. The Collins Company, appellant, *vs.* Loring Coes and Melvin O. Whittier, partners under the name and style of Loring Coes & Company. Filed October 20, 1885.

# APPELLANT'S BRIEF.

## Supreme Court of the United States.

OCTOBER TERM, 1888.

No. 164.

THE COLLINS COMPANY, APPELLANT,

*vs.*

LORING COES AND MELVIN O. WHITTIER, PARTNERS UNDER THE NAME AND STYLE OF LORING COES & COMPANY.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE DISTRICT OF MASSACHUSETTS.

# United States Supreme Court.

## IN EQUITY.

THE COLLINS COMPANY,
*vs.*
L. COES & COMPANY.

## Brief of the Complainant and Appellant.

### EXPLANATORY.

THIS is a suit in equity brought by The Collins Company, a Connecticut corporation, located at Collinsville, in the county of Hartford and State of Connecticut, against Loring Coes and Melvin O. Whittier, partners in business at Worcester, in Worcester County, Massachusetts, under the name and style of L. Coes & Company.

This suit is brought for the alleged infringement of reissued letters-patent No. 5,294, dated February 25, 1873, for an improvement in wrenches, issued to said The Collins Company as assignee of Lucius Jordan and Leander E. Smith, said reissued letters-patent, being based upon original letters-patent, dated October 10, 1865, No. 50,364.

The suit was originally brought in the District of Massachusetts, and on the 24th day of July, 1880, a decision was rendered by Judge Lowell (record, page 149) wherein he sustained the said reissued patent so far as the first claim thereof is concerned, found the second claim anticipated, and found the third claim not infring-

# United States Supreme Court.

## IN EQUITY.

THE COLLINS COMPANY,
*vs.*
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## Brief of the Complainant and Appellant.

### EXPLANATORY.

THIS is a suit in equity brought by The Collins Company, a Connecticut corporation, located at Collinsville, in the county of Hartford and State of Connecticut, against Loring Coes and Melvin O. Whittier, partners in business at Worcester, in Worcester County, Massachusetts, under the name and style of L. Coes & Company.

This suit is brought for the alleged infringement of reissued letters-patent No. 5,294, dated February 25, 1873, for an improvement in wrenches, issued to said The Collins Company as assignee of Lucius Jordan and Leander E. Smith, said reissued letters-patent, being based upon original letters-patent, dated October 10, 1865, No. 50,364.

The suit was originally brought in the District of Massachusetts, and on the 24th day of July, 1880, a decision was rendered by Judge Lowell (record, page 149) wherein he sustained the said reissued patent so far as the first claim thereof is concerned, found the second claim anticipated, and found the third claim not infring-

ed. Subsequently a re-hearing was granted by his Honor Mr. Justice Gray, and in view of the position taken by the Supreme Court in the case of the Pennsylvania Railroad Company *v.* Locomotive Engine Safety Truck Company, 110 U. S. 490, and other cases, he found that there was no invention in the improvement patented to Jordan & Smith, and thereupon ordered the bill of complaint dismissed. This decision was rendered September 3, 1884.[1]

The findings upon which Mr. Justice Gray's decisions are based are, in substance:

*First* The entirety of the Jordan & Smith wrench, with the exception of the nut under the step-plate, is to be found in Loring Coes' patent on wrenches No. 2,054, dated April 16, 1841.

*Second.* A nut was used for a purpose analogous to that of the nut last mentioned in the so-called Hewitt or Dixie wrench, manufactured in Worcester, Mass., in 1851, 1852, or 1853. The transfer of the nut from the Hewitt or Dixie wrench to the said Coes wrench of 1841, did not constitute a patentable invention.

Now, the matters which appellant specially assigns for error in this connection, are:

*First.* The use of a nut at the upper end of the handle in the so-called Hewitt wrench of 1851–53 is not proved within the accepted rules.

*Second.* If it were conceded that the use of a nut at the upper end of the handle in the Dixie wrench of 1851–3 is properly proved it is still true that the combination originated by Jordan & Smith is not an obvious one, and that the nut at the upper end of the handle in the wrench of complainant's reissued patent performs functions which could not be performed by a nut at the upper end of the handle in the Dixie wrench, and that notwithstanding the existence of a nut at the upper end of the handle in the Dixie wrench, the combination originated by Jordan & Smith and

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(1) Between the said decision of his Honor Judge Lowell, and the said decision of his Honor Justice Gray, another suit upon this same reissued patent was brought in the District of Massachusetts, against John H. Coes et al, and was heard by his Honor Justice Gray, together with his Honor Judge Nelson. A copy of the decision in this last case is printed at the end of this brief. The decision to the effect that there is no invention in the structure patented to Jordan & Smith as aforesaid, was first made in this latter case of The Collins Company v. John H. Coes et al. From that decision naturally followed the re-hearing in the first case of The Collins Company v. L. Coes & Company, and the consequent dismissal of the bill.

set forth in complainant's original patent in suit, is a new, useful and patentable invention.

In addition to these matters which are specially assigned for error, this brief will discuss certain other questions.

## THE REISSUED PATENT IN SUIT.

### (RECORD PAGE 78.)

### SPECIFICATION,

*To all whom it may concern:*

Be it known that Lucius Jordan and Leander E. Smith, of Southington, in the county of Hartford and State of Connecticut, invented a new and useful improvement in Wrenches, of which the following is a specification:

#### NATURE AND OBJECT OF THE INVENTION.

The object of this invention is the prevention of end thrust or back pressure on the wooden handle of wrenches, which has heretofore availed to quickly destroy such wooden handles, and, in destroying the handles, has left the working parts of the wrench which depended upon the handles for support without such support, so as to injure and effectually impair their working qualities and efficiency; and is accomplished by so connecting the step which forms a bearing for the lower end of the screw-rod with the bar which forms the main part of the wrench that the back pressure upon the step by the screw rod will be directly transmitted to the wrench-bar at the place of connection therewith, and will not be transmitted to and mainly put upon the wooden handle.

#### DESCRIPTION OF THE ACCOMPANYING DRAWING

Figure 1 is a side view of the whole wrench, the part below the dotted line *x x* being in section. Fig. 2 is a top or plan view of the step which forms a bearing for the lower end of the screw-rod.

#### GENERAL DESCRIPTION.

The letter A indicates the wrench-bar, flat side down to the under side of the step E, and from thence downward cylindrical or of other convenient shape, so as to take upon it the wooden handle G. B is the movable jaw. The letter C indicates the screw-rod, and D the rosette by which it is turned. The letter E indicates the step, in which is the bearing *s* for the lower end of the screw-rod, and also the hole *a* to admit the bar A, and fitting up against the shoulder *b*. On the bar A, just below the step E, is cut the screw-thread *i*, on which screws the nut F, forming a projection from the wrench-bar, on which rests the step E, and thus transmits the back pressure put upon the step directly to the wrench-bar at the place of connection therewith, and thus relieves the wooden handle therefrom, the connection of the step with the bar being made in such manner that the step may be removed or taken off the bar without any cutting or abrasion of parts.

The nut only supports the step, but can be made to rigidly fasten the step to the bar by screwing it firmly up against the step so as to grip it between itself and

the shoulder *b*, thus giving the nut, so to speak, a double office, viz., that of supporting the step, and, also, that of fastening it rigidly to the bar. The nut is interiorly recessed at *d* for the purpose of forming a ferrule for the top of the wooden handle.

Heretofore the part designed to perform the office of the step E has rested directly on the wooden handle, which was secured upon the bar by a light nut *e*, at the lower extremity of the bar, which is the present method of fastening on the handle.

It is known that, previous to this invention, steps have been forged or otherwise produced solid with the bar, and this became as much a part of it as the solid head at extremity of bar; and also by riveting to reach similar result; but such method, by making a permanent fastening, renders it impossible, or a work of great difficulty, to displace the step in order to remove the sliding jaw for repairs. It will be observed that, while Jordan and Smith's method of fastening is as firm as the permanent fastenings last above referred to, their step can readily be removed and again put in place at pleasure.

It is believed that Smith and Jordan were the first to secure easy divisibility of step and bar, together with a fixed or stationary step when in position, and at the same time supporting the step when in position immediately by the bar, and not immediately through the handle, as the manner had been.

As a matter of definition, the Jordon and Smith method of fastening and supporting the step when in position is denominated "removable" hereinafter in contradistinction from a connection and support made by forging or otherwise producing the step in one solid piece with the bar, and, therefore, a part of it; or by riveting it thereto, or the like.

CLAIMS.

1. The step, combined with the wrench-bar and supported by the nut F, or its equivalent, at the place where the step is connected with the bar, in such manner that the step can be removed from the bar without cutting or abrasion of parts.

2. The nut F, combined with the wrench-bar, and interiorly recessed at *d*, for the purpose set forth.

3. The nut F, combined with the threaded bar, and performing the office of supporting the step, and also of rigidly fastening it to the bar, for the purpose set forth.

In witness whereof the Collins Company has hereto set its hand.

*Witnesses*:
CHAS. BLAIR,
LUKE CHAPMAN,
EDWARD H. SEARS.

THE COLLINS COMPANY.
By W. J. WOOD,
Vice-President and
Chief Executive Officer.

## CLERICAL ERROR IN ABOVE PATENT.

The closing paragraph in the above specification is:

"As a matter of definition, the Jordan & Smith method of fastening and supporting the step when in position is denominated 'removable' hereinafter in contradistinction from a connection and support made by forging or otherwise producing the step in one solid piece with the bar, and, therefore, a part of it; or by riveting it thereto, or the like."

A glance at the claims which follow the matter just quoted shows that there is some mistake here, for these claims do not con-

tain said word "removable." The mistake is not a serious one, for the whole phrase would properly and naturally be rejected as surplusage; but as a matter of fact this whole phrase does not belong in the patent, and it is a clerical error on the part of the Patent Office in putting it there. See matter from Comp. Ex. Comp.'s Reissue Application, record page 116, in foot note.(1)

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(1) On the 8th day of December, 1871, the then pending application for the above reissue was amended as per the following amendment:

AMENDMENT.

In the Collins Company's application to reissue Jordan & Smith's wrench patent, the specification is amended by inserting at the end, and immediately before the claim, the following:

"It is known that, previous to this invention, steps have been fastened to the bar by being made solid with it, and also by riveting; but these methods make a permanent fastening, rendering it impossible, or a work of great difficulty to remove the step in order to remove the movable jaw for repairs. It will be observed that, while Jordan & Smith's method of fastening is as firm as the permanent fastening referred to, their step can be removed and again put in place when it is desired. It is believed that Smith & Jordan were the first to effect this with a fixed stationary step, at the same time supporting the step immediately by the bar and not immediately through the handle.

As a matter of definition, then, Jordan & Smith's method of fastening and supporting the step is denominated 'removable' hereinafter, in contradistinction from a connection and support made by making the step in one piece with the bar, or riveting it thereto, or the like."

The first clause of the claim is made to read:—

"The fixed movable step combined with the bar and supported thereby against back pressure, at the immediate point of connection therewith, substantially as described."

COLLINS CO.,
Dated Dec. 8, 1871. By W. E. SIMONDS,
*Attorney.*

Subsequently the application went before the Commissioner in person and thereupon was acted upon in accordance with the following extracts from the record:

"HARTFORD, CONN., Jan. 23, 1873.

HON. COM'R OF PATENTS.

SIR.—In the matter of the application of the Collins Company for reissue of patent to Jordan & Smith for Wrenches granted October 10, 1865, decided on appeal by the Commissioner Nov. 29, 1872, the decision of the Commissioner intimates that if appropriate reference is made in the first claim to the 'Nut F,' the claim may be allowed.

We have therefore to submit for the consideration of the Commissioner the following proposition:

To add under the head of 'nature and objects of the invention' in the specification immediately after the words 'thus relieving the wooden handles from any back pressure' the following:—

'The connection of the step with the bar being made in such manner that the step may be removed or taken off the bar without any cutting or abrasion of parts.'

To erase from the specification the matter contained in the amendment dated Dec. 8, 1871, commencing 'as a matter of definition' and ending with 'or the like.'

To amend the first claim to read 'The step combined with the wrench-bar and supported by the nut F (or other equivalent projection from the bar) in such manner that the step can be removed from the bar without cutting or abrasion of parts.'

It may be irregular to ask the Commissioner to consider proposed amendments or to consider them at all, except when brought before him on appeal, but we beg the Commissioner to remember that this reissue has now been pending before the office since August 5th, 1871, and it may take as long to get these amendments before him in the regular course of appeal, to the great damage of the Collins Company.

If these amendments will satisfy the Commissioner, we are willing to make them, and it seems to us that we are entitled to this much. Speedy action is requested.

Respectfully,
THE COLLINS COMPANY,
By W. E. SIMONDS, Att'y.

Approved for examination and referred to the examiner.

M. D. LEGGETT, Com.

# COMPARISON OF ORIGINAL AND REISSUE.

**ORIGINAL.**

**(Record, page 75.)**

Be it known that we, Lucius Jordan and Leander E. Smith, of Southington, in the county of Hartford, and State of Connecticut, have invented new and useful Improvements in Wrenches, and we do hereby declare that the following is a full clear and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a side elevation of a wrench with a part in section to show the application of our invention.

Figure 2 is a top or face view of the ferrule or step we use as a bearing for the nut, which operates the sliding jaw of the wrench.

Figure 3 is an inverted plan view of the

**REISSUE.**

**(Record, page 78.)**

Be it known that Lucius Jordan and Leander E. Smith, of Southington, in the county of Hartford, and State of Connecticut, invented a new and useful Improvement in Wrenches, of which the following is a specification:

*Nature and Objects of the Invention.*

The object of this invention is the prevention of end thrust or back pressure on the wooden handle of wrenches, which has heretofore availed to quickly destroy such wooden handles, and in destroying the handles, has left the working parts of the wrench which depended upon the handles for support without such support, so as to injure and effectually impair their working qualities and efficiency; and is accomplished by so connecting the step which forms a bearing for the lower end

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U. S. PATENT OFFICE,
WASHINGTON, D. C., Feb. 3d, 1873.

The Collins Co.,
Care W. E. Simonds,
Hartford, Conn.

Sir,—Please find below the decision of the examiner in charge in the matter of your application for a reissue of Patent No. 3,852, dated the 22d day of February, 1870, for improvement in wrenches, and issued to applicant, filed Aug. 5, 1871.

Very respectfully,

COMMISSIONER.

EXAMINER'S ROOM, No. 103.

The application above referred to has been re-examined in view of the amendment filed January 27, 1873. By inserting the words 'at the place of connection therewith,' after the word 'bar' in the fourth line of the amended claim, it will more clearly distinguish the the invention from the patent of Coes, and at the same time, not impose upon the claim of applicant an unjust limitation.

CHAS. W. FORBES, Exam'r.

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AMENDMENT.

WASHINGTON, D. C., Feb. 17, 1873.

In the matter of the application of the Collins Company to reissue patent to Jordan & Smith, granted October, 1865, in accordance with a verbal suggestion of the examiner in charge, made to-day, the 1st clause of the claim is amended to read:

'The step combined with the wrench-bar and supported by the nut (F) or its equivalent, at the place where the step is connected with the bar, in such manner that the step can be removed from the bar without cutting or abrasion of parts.'

THE COLLINS COMPANY,
By W. E. SIMONDS, Att'y."

An examination of these proceedings taken from Complainant's Exhibit, Complainant's Reissue Application, shows that the closing paragraph in complainant's reissued patent, was eliminated by amendment, and the patent is to be read as though this paragraph was stricken out.

nut, which bears against the ferrule, and which is recessed to receive the handle.

Similar letters of reference indicate like parts.

Our invention consists in the employment or use of a ferrule or step, into which is fitted to work the end or journal of the screw-rod, which carries the nut by which the sliding jaw of the wrench is operated, and against which the said nut bears; and it further consists in the use of a nut, which is screwed up on a thread cut on the bar of the wrench, so that it bear against the said ferrule or step and keep it rigidly in place, by which arrangement a strong and durable wrench is obtained, as will be hereinafter explained.

To enable others to understand our invention, we will proceed to describe it.

A represents the bar of the wrench, one part of which is made of the usual shape, and has the sliding jaw B attached in the ordinary way; the other end is made of a form capable of receiving upon it the wooden handle G of the wrench.

C is the screw-rod, and D the nut for operating the sliding jaw B of the wrench; E is a ferrule or step into which rest one end, or, rather, the journal of the screw-rod C, as shown clearly in Fig. 1.

The form of the ferrule or step E is shown clearly in Fig. 2, the hole *a* being for the admission through it of the bar A, which carries the handle of the wrench, and the recess *a'* for a bearing or journal box for the screw-rod C. This ferrule or step, when in a proper position on the bar, rests against a shoulder, *b'*, upon the bar A, as will be understood by reference to Fig. 1.

On the bar A, just below the place where the ferrule or step E encircles it, there is cut a screw thread *c*, on which is fitted to screw a nut F, which is to be screwed up firmly against the ferrule or step E before the wooden handle G is put upon the wrench. A recess *d* is made in the lower face of this nut F to receive the handle G of the wrench, said handle being of the screw-rod with the bar which forms the main part of the wrench that the back pressure put upon the step by the screw-rod will be directly transmitted to the wrench-bar at the place of connection therewith, and will not be transmitted to and mainly put upon the wooden handle.

*Description of the Accompanying Drawing.*

Figure one is a side view of the whole wrench, the part below the dotted line *x x* being in section. Fig. 2 is a top or plan view of the step which forms a bearing for the lower end of the screw-rod.

*General Description.*

The letter A indicates the wrench-bar, flatsided down to the under side of the step E, and from thence downward cylindrical or of other convenient shape, so as to take upon it the wooden handle G. B is the movable jaw. The letter C indicates the screw rod, and D the rosette by which it is turned. The letter E indicates the step, in which is the bearing *s* for the lower end of the screw-rod, and also the hole *a* to admit the bar A, and fitting up against the shoulder *b*. On the bar A, just below the step E, is cut the screw-thread *i*, on which screws the nut F, forming a projection from the wrench-bar, on which rests the step E, and thus transmits the back pressure put upon the step directly to the wrench bar at the place of connection therewith, and thus relieves the wooden handle therefrom, the connection of the step with the bar being made in such manner that the step may be removed or taken off the bar without any cutting or abrasion of parts.

The nut not only supports the step, but can be made to rigidly fasten the step to the bar by screwing it firmly up against the step so as to grip it between itself and the shoulder *b*, thus giving the nut, so to speak, a double office, viz., that of supporting the step, and, also, that of fastening it rigidly to the bar. The nut is interiorly recessed at *d* for the purpose of

secured in place by a nut *d* at the lower end, in the usual way.

By this arrangement the wrench is made far stronger than it would otherwise be, and therefore more durable. In the ordinary wrench the strain comes upon the wooden handle, which is hardly ever secured sufficiently firm to withstand the the great strains to which the several parts of the wrench are oftentimes subjected. In our wrench the entire strain falls upon the nut, and this is secured upon the bar of the wrench tightly and firmly against the ferrule or step, against which latter bears the nut that operates the sliding jaw of the wrench. A casual displacement of this nut F is not possible, and it is firm enough to withstand any strain that the wear is capable of subjecting it to.

The wrench operates easily, and is not likely to get out of order.

What we claim as new, and desire to secure by Letters-Patent, is,—

1. The step E, when held in place upon the bar substantially as and for the purpose set forth.

forming a ferrule for the top of the wooden handle.

Heretofore the part designed to perform the office of the step E has rested directly on the wooden handle, which was secured upon the bar by a light nut, *o*, at the lower extremity of the bar, which is the present method of fastening on the handle.

It is known that, previous to this invention, steps have been forged or otherwise produced solid with the bar, and this became as much a part of it as the solid head at extremity of bar; and also by riveting to reach similar result; but such method, by making a permanent fastening, renders it impossible, or a work of great difficulty, to displace the step in order to remove the sliding jaw for repairs. It will be observed that, while Jordan and Smith's method of fastening is as firm as the permanent fastenings last above referred to, their step can readily be removed and again put in place at pleasure.

It is believed that Smith and Jordan were the first to secure easy divisibility of step and bar, together with a fixed or stationary step when in position, and at the same time supporting the step, when in position, immediately by the bar, and not immediately through the handle, as the manner had been.

As a matter of definition, the Jordan & Smith method of fastening and supporting the step when in position is denominated "removable" hereinafter, in contradistinction from a connection and support made by forging or otherwise producing the step in one solid piece with the bar and, therefore, a part of it; or by riveting it thereto, or the like.

*Claims.*

1. The step combined with the wrench bar and supported by the nut F, or its equivalent, at the place where the step is connected with the bar, in such manner that the step can be removed from the bar without cutting or abrasion of parts.

2. The nut F, fitted to screw upon the bar A, so that one of its sides or faces will rest against the step E, and the other recessed to receive the upper end of the handle, substantially as described.

3. The combination of the step E, screw-rod C, nut D, and nut F, substantially as herein shown and described.

LUCIUS JORDAN,
LEANDER E. SMITH.

*Witnesses:*
HENRY R. BRADLEY,
JULIUS B. SAVAGE.

2. The nut F, combined with the wrench-bar, and interiorly recessed at *d*, for the purpose set forth.

3. The nut F, combined with the threaded bar, and performing the office of supporting the step, and also of rigidly fastening it to the bar, for the purpose set forth.

In witness whereof the Collins Company has hereto set its hand.

THE COLLINS COMPANY,
By W. J. WOOD,
Vice-president and
Chief Executive Officer.

*Witnesses:*
CHAS. BLAIR,
LUKE CHAPMAN,
EDWARD H. SEARS.

## THIS REISSUE IN SUIT IS NARROWED AS COMPARED WITH THE ORIGINAL.

The first claim of the original patent was:

"1. The step E, when held in place upon the bar, substantially as and for the purpose set forth."

The first claim of the present reissue is:

"1. The step combined with the wrench-bar and supported by the nut F, or its equivalent, at the place where the step is connected with the bar in such manner that the step can be removed from the bar without cutting or abrasion of parts."

It ought to be a very clear and plain proposition that the first claim of the present reissue is narrower and more restricted in its terms, as well as in its spirit, than the first claim of the original patent. The specification in the present reissue, of "the nut F, or its equivalent," as the means of supporting the step upon the bar, is a restriction as compared with the terms of the original claim.

That phrase in the first claim of the reissue in suit which says that the nut F or its equivalent must be "at the place where the step is connected with the bar" is a narrowing and restriction: no such specification or limitation is to be found in the terms of the first claim of the original: it is a fact readily to be seen that in complainant's patented wrench the nut F or its equivalent must be "at the place where the step is connected with the bar," but no such restriction was expressed in the original first claim.

That phrase in the first claim of the reissue in suit which specifies that the manner of supporting the step on the wrench-bar is "in such manner that the step can be removed from the bar without cutting or abrasion of parts" is a restriction. It is very evident that in the complainant's patented wrench, such is the manner of support, but no such restriction as this phrase implies is to be found in the terms of the claim of the original patent. An examination of the file appurtenant to the procurement of this present reissue (Complainant's Exhibit, Complainant's Reissue Application—record page 116) will show that these phrases were intended, by the Patent Office and by the applicant, to be restrictions; and were restrictions of the claim as compared with the original patent.

The second claim of complainant's original patent was:

"2. The nut F, fitted to screw upon the bar A so that one of its sides or faces will rest against the step E, and the other recessed to receive the upper end of the handle substantially as described."

The corresponding claim in the reissue in suit is:

"2. The nut F, combined with the wrench-bar and interiorly recessed at *d*, for the purpose set forth."

At first glance this second claim of the present reissue may seem to be somewhat broadened as compared with the terms of the original second claim, but such is not really the fact, for the nut F is of no use unless it is to immediately support the step E, and the interior recess is of no use unless it is to receive the upper end of the handle, therefore there is no real broadening of this second claim of the reissue. And complainant expressly concedes that it can not receive any construction broader than that which is due to the second claim of the original.

The third claim of the present reissue is:

"3. The nut F, combined with the threaded bar and performing the office of supporting the step and also of rigidly fastening it to the bar, for the purpose set forth."

This claim, like the first claim of the reissue in suit, must find its basis in the first claim of the original patent, to wit:

"1. The step E, when held in place upon the bar, substantially as and for the purpose set forth."

The third claim of the reissue in suit is the first claim made more specific in the following particulars: *first*, the nut F is mentioned as the specific means of supporting the step upon the bar; and, *second*, there is the added limitation that the nut must not only support the step but also rigidly fasten it to the bar.

It would seem to be idle to attempt to maintain that the reissue in suit shows or describes any construction or any mode of operation whatever, that is not shown and described in complainants' original patent, so that there is no ground for a pretence that the reissue is for a different invention. And it can not be maintained that the claims of the reissue in suit have been enlarged, as compared with the original patent, for the reason that it appears from a comparison of the first and third reissue claims with the first claim of the original, that said first and third reissue claims are more limited and specific in their nature than said first claim of the original. And when the second claim of that reissue in suit is compared with the second claim of the original patent, it will appear that they cover precisely the same thing and must receive precisely the same construction.

***Cases in Point.***

The claim in an original patent was:

"Two or more type-wheels separately controlled by mechanism and arranged side by side with their axis on the same line so as to be pressed jointly or separately on one strip of paper, substantially as and for the purposes set forth."

The reissue claim was:

"Two or more type-wheels moving independently and controlled by mechanism, and arranged so as to print jointly or separately upon one strip of paper, in two or more lines, substantially as specified."

The reissue claim was held valid.

*Gold & Stock Tel. Co.* v. *Commercial Tel. Co., et al.*, 23 Fed. Rep. 340. Shipman, 1885.

The claims of an original patent were:

"1. An endless perch *A A'*, substantially as and for the purpose set forth.

2. Connecting-rods *C* and *C*, pivoted at or near the opposite ends of the perches *A* and *A* and provided with links *D* and springs *B* and *B*, all combined to operate between the opposite perches *A* and *A*, substantially as and for the purpose set forth."

The reissue claims were:

"1. In a road-wagon, the combination as set forth, of the body, side perches, and semi-elliptic springs arranged between the perches, and means for equalizing the action of such springs, as set forth.

2. The combination with the semi-elliptic springs supporting a body between the side-bars or perches of a vehicle, of an equalizing bar arranged opposite and connected to the adjacent ends of said springs as set forth."

The court held the reissue claims were not unduly expanded and said: "Neither of the claims in the reissue distinctly specify an endless perch, as in the original, but the claims must be read with the specifications, and when so read there is no doubt the patentee intended to claim the same form of perch in the reissue as in the original patent."

*Saladee* v. *Racine Wagon & Carriage Co., et al.*, 27 O. G., 1133, Dyer, 1884.

The claim in an original patent was:

"I claim in finishing nails the process of curving their bodies and beveling their points and afterwards forcing them through an open die to shear off superfluous metal, substantially as and for the purpose specified."

The reissue claim was:

"The process of curving the bodies of nails and bevelling their points by spreading the metal laterally and afterwards forcing them through an open die to shear off superfluous metal, substantially as and for the purpose set forth."

The two claims were held to be substantially identical.

*Globe Nail Co.* v. *U. S. Horse Nail Co.*, 19 Fed. Rep., 819, Nelson, 1884.

The original claim was:

"A thermometer tube having its bore out of and beyond the mechanical axis or center, as and for the purposes described."

The reissue claim was:

"A thermometer having its bore in rear of or beyond the mechanical axis or center of the convex surface through which it is viewed, as and for the purpose described."

The reissue was sustained.

*Hicks* v. *Otto, et al.*, 19 Fed. Rep., 749, Wallace, 1884.

An original patent for an improvement in brooms "described metallic splints, and the claim was for simply a wire broom made substantially in the manner set forth. The reissue describes metallic or other suitable splints, and the claim is for such splints inserted in bundles through apertures formed in pairs in the base plate of the broom by looping them as described, said apertures being connected by a groove or recess to accommodate the loop, and the latter held to its place by a back or upper plate, substantially as shown and described. The substitution of other suitable splints for wires would occur to any mechanic with skill for making the brooms and required no invention. There is nothing described as invented in the reissue that was not in the original and therefore the invention described in the reissue is the same as that described in the original."

*McArthur* v. *Brooklyn R. R. Supply Co., et al.*, 19 Fed. Rep. 263, Wheeler, 1884.

"Where a patentee in his original claim and specifications describes his invention in part by specifying a material to be used, but declares that the sole utility or availability of that material in connection with his device is that it has two properties; and in his reissued patent, in his claim and specifications, in the description of his invention, substitutes for his former specification of a material to be used, as a part of his device, a description of materials which may be used by specifying only those which have the two properties in which he had formerly declared the utility or availibility of the material which he then named consisted, there is no

2. Connecting-rods *C* and *C*, pivoted at or near the opposite ends of the perches *A* and *A* and provided with links *D* and springs *B* and *B*, all combined to operate between the opposite perches *A* and *A*, substantially as and for the purpose set forth."

The reissue claims were:

"1. In a road-wagon, the combination as set forth, of the body, side perches, and semi-elliptic springs arranged between the perches, and means for equalizing the action of such springs, as set forth.

2. The combination with the semi-elliptic springs supporting a body between the side-bars or perches of a vehicle, of an equalizing bar arranged opposite and connected to the adjacent ends of said springs as set forth."

The court held the reissue claims were not unduly expanded and said: "Neither of the claims in the reissue distinctly specify an endless perch, as in the original, but the claims must be read with the specifications, and when so read there is no doubt the patentee intended to claim the same form of perch in the reissue as in the original patent."

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The reissue claim was:

"A thermometer having its bore in rear of or beyond the mechanical axis or center of the convex surface through which it is viewed, as and for the purpose described."

The reissue was sustained.

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"Where a patentee in his original claim and specifications describes his invention in part by specifying a material to be used, but declares that the sole utility or availability of that material in connection with his device is that it has two properties; and in his reissued patent, in his claim and specifications, in the description of his invention, substitutes for his former specification of a material to be used, as a part of his device, a description of materials which may be used by specifying only those which have the two properties in which he had formerly declared the utility or availibility of the material which he then named consisted, there is no

enlargement of the thing patented and the reissued patent is therefore valid."

*Dunbar* v. *White, et al.*, 15 Fed. Rep., 748, Billings, 1882.

The claim in an original patent was:

"The stock provided with the bar-receiving recess, and boss, as described, and with the clamp arranged in such recess and boss, substantially as set forth."

The reissue claim was:

"The stock provided with the clamp-screw, and receiving boss or sustaining-device *f*, arranged so as to cause the clamp C, when therein, to be between the vertices of the angle of the lower edge *d*, and the bearing edge *c*, *e*, of the stock, all substantially as set forth."

The reissue was sustained.

*Starrett* v. *Athol Machine Co., et al.*, 14 Fed. Rep., 910, Lowell, 1883.

A claim which is nominally a single claim, may, by construction, be divided into two claims. "A reissue with a division of the claim into two claims would have been sustainable."

*Holt, et al.*, v. *Keeler, et al.*, 22 Official Gazette, 1291, Blatchford, August, 1882.

"The claims in the reissue relating to the apparatus, considered literally, are broader than the claim in the original. Indeed, they describe the invention rather than the mechanism of the apparatus. But they are to be construed with reference to the specification, and so, if consistent with the language used, as to secure the patentee the invention which is described. They are not to be construed, if the language will reasonably bear such an interpretation, as to embrace any invention broader in its scope than that in the original."

*Brainard* v. *Cramme*, 12 Fed. Rep., 621, Wallace, June, 1882.

*Eames* v. *Andrews, et al.*, 122, U. S. 40, Sup. Court, 1887.

## THE PRIOR ART.

Under this heading will be concisely described each wrench of the prior art which is in evidence (except the so-called Dixie wrench) with a view of ascertaining what complainant's patented improvement really was. The so-called Dixie or Hewitt wrench will be separately and more elaborately considered.

### OLD ENGLISH WRENCH.

This has no particular pertinence in the discussion of this case and is noticed simply because defendants saw fit to offer it in evidence: they do not, however, claim that it in any manner anticipates the patented invention on which this suit is brought. In the old English wrench all the parts are of iron. Mr. Hervey Waters, defendant's expert, describes it as follows (record page 31):

"In the old English wrench it will be seen that the adjustment is made by turning the handle of the wrench, in the interior of which there is a screw nut or female screw working upon a thread cut upon the lever of the wrench, so that the outer jaw is worked towards and from the inner jaw by turning the handle of the wrench."

This is believed to be the earliest known form of "monkey" wrench.

### THE MERRICK WRENCH.

This has no pertinence as regards the patented improvement in suit, but is noticed here because defendants have seen fit to offer it in evidence. Mr. Hervey Waters, defendant's expert, describes this Merrick wrench as follows (record page 31):

"In the Merrick wrench there is a thread upon the bar or lever of the wrench, between the handle and the outer jaw, but the handle does not turn upon the lever of the wrench; nor does the distance between the outer jaw and the handle ever change in the adjustment of the wrench, as that distance does change in the old Engliah wrench.

* * *

In the Merrick wrench the inner jaw is made to traverse upon the lever or bar of the wrench for the purposes of adjustment; and is kept in the same plane with the outer jaw by means of a mortise in the inner jaw which clasps the bar of the wrench and fits it substantially; and the inner jaw is kept from cocking upon the bar by means of this mortise and also of a bearing upon the adjusting nut of the wrench where a clasp surrounds the nut, and this clasp is connected with the inner jaw by means of an arm. This clasp surrounds the nut in a groove so that when the nut is screwed back and forth upon the bar the inner jaw is drawn back and forth, and in the use of the

wrench for turning a bolt or nut, the end-thrust of the jaw is taken upon one shoulder of the nut through the arm which supports the jaw, to the clasp, the clasp bearing against the shoulder of the nut. In adjusting the wrench to different sizes, the operative turns the nut with his thumb and finger usually or with the thumb alone, if he can while holding the wrench by the handle; while in the old English wrench he adjusted the wrench by turning the handle, and usually while holding the wrench in his other hand."

## COES' WRENCH PATENT, APRIL 16, 1841.

(Record page 30.)

There was some dispute in the court below as to how certain details of this wrench were constructed. It is not necessary to a determination of this case that these particular details should be passed upon or settled, and this complainant will therefore, for the purposes of this suit, accept the construction offered by these defendants, one of whom is the patentee named in the said patent of April 16, 1841. Mr. Hervey Waters, defendants' expert, describes this Coes wrench as follows (record page 31):

"Going now to the Coes wrench, it will be seen that the inner jaw of the wrench works upon the bar or lever of the wrench the same as the inner jaw of the Merrick wrench, but this Coes wrench has a secondary mortised block or support sliding upon the bar, which is connected to the jaw by means of an arm or connecting piece, so that the inner jaw is kept from cocking by means of these two mortised pieces which work upon the bar; and it will also be seen that there are these emphatic differences between the Coes wrench and the Merrick wrench:—

In the Merrick wrench, when it is put to use, the tendency is to cock the inner jaw, and with it the arm which connects the jaw with the clasp, so that the arm forces the clasp down upon the nut and upon the screw upon the lever or bar of the wrench; while in the Coes wrench it is forced down upon the bar of the wrench where there is no screw as there is in the Merrick wrench.

Moreover, the end thrust of the jaw is not thrown upon the shoulder of a nut in the Coes wrench, but is thrown upon a screw independent of the bar or lever of the wrench, and parallel thereto, which screw works into the inner jaw and its connections where there is a female screw to receive it.

Taking again the Merrick wrench, it will be seen that as the adjustment is made, the nut which makes the adjustment travels away from the handle, while in the Coes wrench the nut or rose upon the screw, by which the adjustment is made, is always in the same position, and can be turned by the thumb alone applied to the corrugated periphery of the nut or rose.

These differences between the Coes wrench and the Merrick wrench make the Coes wrench the most desirable of the two, and they have accordingly taken the market, to the exclusion of the Merrick wrench, nearly, if not quite altogether, for the past twenty years or so, and so far as I know; while the old English is seldom purchased in the market, so far as I know, and seldom seen in the shops or other places where these wrenches are used."

This is the wrench to which Messrs. Jordan & Smith, complainant's patentees, added the patented improvement now in suit. It will be observed that this Coes wrench, patented in 1841, is the first wrench which had the adjusting screw of the movable jaw lying along-side the wrench bar; in both of the wrenches prior to this the adjusting screw *encircled* the wrench bar; to attain this difference in the "Coes Wrench" the use of a step (or step plate) was necessary, by which is meant a plate which encircles the wrench bar and projects laterally therefrom, so as to form a bearing and support for the lower end of the adjusting screw which is appurtenant to the movable jaw. It will be further observed that this is the first wrench wherein the adjusting screw appurtenant to the movable jaw is stationary, and by reason thereof the operative is enabled to always readily reach the rosette and rotate this adjusting screw with his thumb, without moving his grasp upon the handle of the wrench. As Mr. Waters very properly states, the improvements in this wrench made it the wrench which dominated the market.

Now, having pointed out certain of the great advantages appurtenant to the Coes wrench of 1841, as compared with the art prior thereto, let us point out the chief defect which existed in that wrench: that defect was that the said step where it encircles the wrench bar rested upon the upper end of the wooden handle whereby the back pressure which, in use, is put upon the movable jaw, was transmitted through the adjusting screw and through the step to this wooden handle, sooner or later crushing such wooden handle: it will be understood that in the use of such wrenches they are constantly subjected to enormous strains in the screwing up and unscrewing of nuts; it is a matter of daily and often of hourly occurrence that the whole strength of the operative, multiplied through the wrench bar used as a lever, is put upon the movable jaw and thence upon the wooden handle, invariably crushing it to a great degree sooner or later, and disorganizing the wrench. Let there be adduced at this point some evidence as to this defect in the Coes wench patented in 1841.

(1) George C. Taft, who is a witness for defendants, and under whose patent of 1863 these defendants attempt to justify their infringement, took a patent for a wrench May 25, 1858, No. 20,-

379, (Complainant's Exhibit Taft's 1858 Patent—record page 82) wherein he contrasts his improvement of 1858 with a prior construction wherein the back pressure of the movable jaw is put upon the handle, and thereof says:

"And the handle in being subjected to such strains is not liable to be forced off the shank."

(2) This same George C. Taft, in the procurement of his patent of 1863, under which these defendants attempt to justify their infringement (Complainant's Exhibit Application for Taft's 1863 Patent—record page 97) offered an affidavit as follows:

"We the undersigned, practical mechanics, hereby certify that we have used the 'Coes wrench' and have been familiar with it for twenty years, more or less, and in no instance have we ever seen the 'Coes wrench' so constructed, by having one grove in the main bar, as to receive and retain the pressure of the jaw in said groove when in use.

The groove was of slight depth. The face of the ferrule being flush with the lower end of the groove in the bar caused the end or face of the rosette to bear with full force upon the face of the ferrule when the wrench was in use, and the pressure thus thrown against the ferrule was liable to crowd the ferrule back and crush the wood handle, thereby causing the bearing of the rosette to become disconnected from the ferrule and so far deranging the working parts of the wrench that it could not be used except at the expense of a new handle. This feature in the 'Coes wrench' was a great defect and where it usually failed first.

* * * * * *

WORCESTER, MASS., September, 1862.

CLARENDON WHEELOCK, Inventor.
WM. T. MENIFIELD, Machinist.
ALONZO WHITCOMB, Machinist.
TOWNE & HARRINGTON, Machinists.
T. F. TAFT, Machinist.
CHAS. B. LONG, Machinist.
A. P. BROWN, Machinist.
GEORGE F. RICE, Machinist.
J. C. STODDARD, Machinist and Inventor.
JOHN GOULDING, Inventor.
O. P. RICHARDSON, Machinist.
(Jurat.)

In the same application said Taft submitted another affidavit concerning the Coes wrench of 1841, wherein language is used as follows:

"The face of the ferrule being flush with the groove in the bar, consequently all the resistance or strain which the sliding jaw encountered was conveyed to and received by the ferrule, the rear shoulder in the groove affording very trifling resistance when we consider the freedom that must necessarily be given to the parts to enable them to

operate with facility, the inevitable tendency, and the result from the labor these wrenches are required to perform, is to force the ferrule back upon, and crush the wood handle, and cause the pivot upon the rosette to become disengaged from the ferrule.

* * * * * * *

WORCESTER, MASS., Sept., 1863.

JOHN GOULDING, Inventor and Machinist.
CLARENDON WHEELOCK, Machinist.
T. F. TAFT, Machinist.
J. WALLACE WOODWARD, Machinist.
A. L. DOANE, Machinist.
(Jurat.)

(3). Loring Coes, one of these present defendants, bought the said Taft patent of 1863, and in 1869 reissued the same, and he presented a specification in procuring that reissue (Complainant's Exhibit Taft's 1869 Reissue Patent—record page 108), which contains the following language:

"The nature of the said Taft's invention relates to a mode of constructing the Coes wrench, patented April 16, 1841, in such a manner that the handle shall be relieved from the back thrust or strain of the rosette screw, when the wrench is used. In my said wrench the rosette presses against the ferrule, and the ferrule in turn against the front end of the handle whereby the handle was often split and broken."

(4). Joshua S. Wheeler, a witness in defendants' behalf, and speaking of a Coes wrench of 1841, said (X-Int 10—record page 24):

"I have used that same kind of a wrench when it would bear back so as to split the wooden handle."

(5). Said George C. Taft, as a witness for defendants, in this case, spoke of a subsequent thing and said that it (Int. 10—record page 28):

"prevents forcing the ferrule into the wood as was the case in the old Coes wrench."

This serious defect in the Coes wrench is one of the trouble which it was the office of Jordan & Smith's improvement to cure, and that is the reason why at this point so much pains has been taken to show the existence of that serious defect in the Coes wrench patented in 1841.

## TAFT & MASON'S PATENT OF 1857.

(Record page 89.)

George C. Taft, assignee to Henry W. Mason, took a patent on the screw wrench shown in the annexed illustration, dated June

16, 1857, and numbered 17,609. This Taft & Mason wrench employed substantially the same step which was invented by Loring Coes and patented in 1841, as already set forth. In this patent there was no attempt to cure the difficulty inherent in the Coes wrench of 1841: the improvement in this patent is devoted to another end, to wit: the rapid adjustment of the movable jaw, and that end is attained by giving the adjusting screw a right hand thread on the upper end taking into the movable jaw, and a left hand thread on the lower end taking into the step. This Taft & Mason wrench of 1857 has no special pertinence as regards the question now in discussion and is introduced here simply because it is a part of the regular course of the art of wrench-making prior to the Jordan & Smith patent of 1865.

TAFT'S PATENT OF 1858.

(Record page 91.)

The said George C. Taft took a patent for a screw-wrench May 25, 1858, No. 20,379. In this wrench of Taft's 1858 patent there was an attempt to overcome the serious defect of the Coes 1841 wrench. In this wrench of Taft's 1858 patent, the rosette on the adjusting screw was itself a screw taking into a screw-rack on the wrench-bar, and the attempt to cure the defect of Coes' wrench of 1841, is referred to in Taft's 1858 patent as follows:

"The great advantage of my present wrench * * is that the rosette and screw are combined in one piece, operate in a rack, and are arranged between the ferrule projection and the extension of the movable jaw, while the milled screw or rosette in this arrangement causes the strain on the movable jaw to be borne by the shank itself, * * and the handle, by not being subjected to such strain, is not liable to be forced off the shank."

HAYWARD'S PATENT OF 1858.

(Record page 94.)

Francis D. Hayward took a patent on a screw-wrench August 17, 1858, No. 21,196. It has no special pertinence as regards the questions under discussion and is referred to simply because it is a part of the art of wrench-making prior in point of time to Jordan & Smith's patent of 1865.

TAFT'S PATENT OF 1859.

(Record page 95.)

Said George C. Taft took a patent on screw wrenches April 26. 1859, No. 23,798. It is an improvement on the wrench shown in Taft's patent of 1858, in that where, in his patent of 1858 the pintal or guide-rod at the lower end of the adjusting screw played up and down in the step, in the wrench of this patent, of 1859, a stationary pintal or guide-rod is attached to the top of the step plate and projects up into the adjusting screw, which is made hollow for that purpose. This patent has no special pertinence as regards the questions under discussion in this case, but is introduced as a part of the art prior in point of time to the patent of Jordan & Smith of 1865.

BEHRENS' PATENT OF 1859.

(Record page 133.)

Henry J. Behrens took a patent on screw wrench May 24, 1859. It has no pertinence whatever to the questions under discussion in this case. It is introduced here because it was a reference given by the Patent Office in the procurement of the reissue in suit. The Behrens wrench has no pertinence in the present case because it has no step whatever, and no supporting nut of any kind.

MCDONALD'S PATENT OF 1863.

(Record page 135.)

Andrew T. McDonald took a patent on a screw wrench April 28, 1863, No. 38,316. It was given as a reference by the Patent Office in the procurement of the reissue in suit and for that reason is shown as a part of the present prior art, although it has no pertinence as regards the questions under discussion because it has no step plate and no nut of any kind.

TAFT'S PATENT OF 1863.

(Record page 98.)

Said George C. Taft took a patent on a screw wrench Nov. 10, 1863, No. 40,590. Below is a full copy of the

## SPECIFICATION.

*To all whom it may concern:*

Be it known that I, George C. Taft, of Worcester, in the County of Worcester, and Commonwealth of Massachusetts, have invented a new and useful improvement in Screw Wrenches; and I do hereby declare that the following is a clear, full and exact description of the same, reference being had to the accompanying drawings forming a part of this specification, in which,

Fig. 1 represents a perspective view of my improvement, and

Fig. 2 represents a detached view of the "rosette" and therewith connected.

Similar letters of reference indicate like parts in the drawings.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation

A is the shank of my wrench, B the stationary jaw, and B' the sliding jaw, through the part B'' of which the operating screw C works.

D is the "rosette," formed in one piece, as shown with the screw C, and journaled at *a*, to ferrule E.

Parallel grooves *dddd* are cut in the shank A, in which projections *eee* of the rosette turn.

The projections *eee* are made parallel to each other and are beveled on one side, as shown, to lessen the friction of the rosette upon the turning.

The operation is as follows:—

To adapt the opening between the jaws to the size of the object to be clasped thereby, the operator turns the rosette to the right or left, as the size of the object will indicate, which will turn the screw in the part B'' of the sliding jaw B', and as to the way turned, will increase or diminish the distance between the jaws, as required.

The advantages of having a "rosette" of this form is, that it sustains the pressure which would otherwise come on the ferrule E, which pressure is often so great as to break it off or displace it, thus rendering the whole wrench useless.

Having thus described my improved wrench,

I am aware that the rosette of screw wrenches has heretofore been constructed with a screw thread, and I do not claim such device, but what I claim and desire to secure by Letters-Patent, is,

The combination of the parallel grooves *dddd* in the shank A with the corresponding projections *eee* on the rosette D, the same not being spiral but running at right angles to the line of motion of the jaw, thus relieving the ferrule from all strain while retaining the rosette in the same relative position as respects the handle of the wrench, substantially as and for the purposes set forth.

In witness whereof, I have hereunto subscribed my name,

GEO. C. TAFT.

In presence of

JAMES H BANCROFT,
JOHN GOULDING,
ADDISON P. BROWN,
TIMOTHY F. TAFT.

The part of the specification to which attention is particularly directed is the following:

"The advantages of having a 'rosette' of this form is, that it 'sustains the pressure which would otherwise come on the ferrule

'E which pressure is often so great as to break it off or displace 'it, thus rendering the whole wrench useless."

This Taft patent of 1863 was an attempt to cure the difficulty incident to the construction of the wrench shown in Coes' patent of 1841. It does not differ very substantially from the attempt toward the same end made in Coes' patent of 1858, but in this latter patent the projections upon the rosette were spiral or parts of a screw, while in the wrench of Taft's patent of 1863, the projections upon the rosette are not spiral but straight across the bar, thus permitting the rosette to remain stationary, while in the wrench of Taft's patent of 1858 the rosette necessarily travelled up and down in the adjustment of the movable jaw.

## THE SPURIOUS PRIOR ART.

The specification of the reissue patent in suit contains the following—record page 79:

"It is known that previous to this invention steps have been forged or otherwise produced solid with the bar and thus became as much a part of it as the solid head at extremity of bar; and also by riveting to reach similar results; but such method of making a permanent fastening renders it impossible, or a work of great difficulty, to displace the step in order to remove the sliding jaw for repairs. It will be observed that while Jordan & Smith's method of fastening is as firm as the permanent fastenings last above referred to, their step can readily be removed and again put in place at pleasure.

A reference to the application on which this reissued patent in suit was procured (Complainant's Exhibit Complainant's Reissue Application—record page 116) will show that the language just quoted was put into the reissued patent on account of references given by the Patent Office to J. E. Atwood's rejected application, filed November 23, 1852, and the rejected application of N. Whipple, filed May 6, 1854. No such disclaimer as is contained in the language above quoted is to be found in complainant's original patent. Complainant will not attempt to claim that it is not bound by this disclaimer, but as a matter of fact the disclaimer has no proper place in the specification of the reissued patent in suit, because the genuine prior art contains no such things as are referred to in that disclaimer. In other words, the said disclaimer was put into the reissued patent because of references to said re-

jected applications given by the Patent Office, while it is now well settled that rejected applications for patents are not a part of the prior art and are not properly to be considered either in determining upon the patentability of a device, or in construing the breadth of a claim.

ATWOOD'S REJECTED APPLICATION.

(Record page 126.)

This is to be found in Complainant's Exhibit Atwood's Rejected Application. All the parts are of iron; there is no wooden handle whatever, and the step is riveted to the bar by a rivet.

WHIPPLE'S REJECTED APPLICATION.

(Record page 130)

This is shown in Complainant's Exhibit Whipple's Rejected Application. This wrench has no genuine step, but it has something in that general nature which is riveted to the wrench bar.

These two rejected applications are, legally, of no account in this case, because rejected applications are no part of the prior art, legally; but it is fair that the court should understand how the disclaimer which has been quoted came into the reissued patent in suit.

## SCOPE OF THE PATENTED IMPROVEMENT.

Having traversed the whole prior art (unless the Dixie wrench belongs therein—a matter hereinafter specially considered) we come, in point of time, to the patented improvement of Jordan & Smith whose original patent was numbered 50,364, and dated October 10, 1865. The construction of the Jordan & Smith wrench is such that the back pressure emanating from the movable jaw, is, through the adjusting-screw, transmitted to and put upon the step, and is by the step transmitted to and put upon the nut which encircles the wrench-bar immediately below the step. That nut is amply strong to sustain all such back pressure, and it entirely relieves the handle from that back pressure. The advantages attained by the Jordan & Smith improvement are, mainly:

*First.* The back pressure emanating from the movable jaw is put directly and vertically upon the step, and the wooden handle is relieved by the nut under the step.

*Second.* The nut not only sustains all such back pressure and entirely relieves the wooden handle therefrom, but it also grasps the step rigidly between itself and the shoulder on the wrench-bar, above the step, to the ends that it fastens the step-plate rigidly and squarely in its proper position, when the wrench is new, and afterwards affords a means of adjusting the step to its proper position on the bar, after parts have become worn away by use.

*Excerpt from Complainant's Original Patent.*

(Record page 76.)

"Our invention * further consists in the use of a nut which is screwed up on a thread cut on the bar of the wrench so that it will bear against the said ferrule or step and keep it rigidly in place, by which arrangement a strong and durable wrench is obtained as will be hereinafter explained.

* * * * * *

By this arrangement the wrench is made far stronger than it would otherwise be, and therefore more durable. In the ordinary wrench the strain comes upon the wooden handle which is hardly ever secured sufficiently firm to withstand the great strains to which the several parts of the wrench are oftentimes subjected. In our wrench the entire strain falls upon the nut and this is screwed on the bar tightly and firmly against the ferrule or step, against which latter bears the nut that operates the sliding jaw of the wrench. A casual displacement of this nut F is not possible, and it is firm enough to withstand any strain that the wear is capable of subjecting it to."

*Excerpt from Reissue Patent in Suit.*

(Record page 78)

"The object of this invention is the prevention of end-thrust or back pressure on the wooden handles of wrenches, which has heretofore availed to quickly destroy such wooden handles, and in destroying the handles, has left the working parts of the wrench which depended upon the handles for support without such support, so as to injure and effectually impair their working qualities and efficiency; and is accomplished by so connecting the step which forms a bearing for the lower end of the screw-rod with the bar which forms the main part of the wrench that the back pressure put upon the step by the screw-rod will be directly transmitted to the wrench-bar at the place of connection therewith and will not be transmitted to and mainly put upon the wooden handle."

*From James Shepard's testimony.* (*Int.* 4, *prima facie case,—record, page* 16.)

"The advantages of this construction are, that the step may be pressed firmly up against the shoulder and held there in a very rigid and substantial manner, so as to

prevent the force of the movable jaw from being transferred through the step to the handle, so as to batter the handle, and so as not to interfere with any of the working parts. Second, this mode of fastening the step does not in any manner weaken the wrench-bar, but, on the contrary, strengthens it. Third, the step can be very readily removed, when desired, for the purpose of repairing any of the parts; and fourth, a mortise is provided back of the nut in this removable step wrench to receive and support the inner end of the handle.

*From Harvey Waters' testimony.* (Record page 51.)

X-Int. 38. Does the nut under the step in the wrench described in complainant's reissue perform the office of relieving the handle from end thrust well and thoroughly?

Ans. Yes.

## Comparison with the Genuine Prior Art.

There is only one kind of thing in the genuine prior art with which this improvement of Jordan & Smith is to be compared. That kind of a thing is to be found in the attempt of George C. Taft to transfer the back pressure from the movable jaw to the shank by having the rosette on the adjusting screw intermesh with corresponding grooves in the wrench-bar; in Taft's patent of 1858 the projections on the rosette were spiral and took into corresponding spiral grooves made in the wrench-bar; in Taft's patent of 1863 the projections on the rosette were at right-angles to the wrench-bar and took into grooves in the wrench-bar which were correspondingly right-angled to the length of the bar. The practical differences between the wrenches of Taft's patents of 1858 and 1863 and the improvement of Jordan & Smith, is set out in the following—

*Testimony of James Shepard.*

(Record page 65.)

Int. 20. Does the wrench described in Taft's patent of 1863 possess the mechanical characteristics of complainant's patented wrench?

Ans. It does not.

*First.* Because the end-thrust is received near the peripheries of the rosettes on the screw, whereby a much greater friction is caused than there is where the end-thrust comes upon the screw or rosette at a point nearer its axis, as in complainant's wrench, and this at all times, under all conditions.

*Second.* In the Taft wrench when an object is griped between its jaws with a light pressure the friction is so great that it would be difficult to revolve the screw and rosette with the fingers so as to make the jaws pinch tighter. Under the same condi-

tions the screw and rosette of complainant's patented wrench can be easily revolved by the fingers.

*Third.* The slots in the wrench-bar in order to be of service, must be made of such a depth as to materially weaken the bar at a vital point.

*Fourth.* As the rosette of the screw cannot be slipped end wise directly into place, but must be moved a little distance at right angles with its axis, an undesirable looseness either in the fitting of the screw or the sliding jaw or both is necessitated, in order to get the parts into place. This is not so in complainant's patented wrench, because the screw can be slipped endwise into place without any movement whatever transversely to its axis.

*Fifth.* The end-thrust of the screw in the Taft patented wrench is all brought to bear at a point quite remote from its axis and all on one side of its axis, so that under great pressure the tendency to throw the rosette out of the slot will be so great as to be liable to bend the screw. This danger is increased by locating the bearing surfaces of the rosette farther away from the lower end of the screw, so that the greater number of rosettes that are employed, the greater the danger of bending the screw. In the complainant's patented wrench there is no such tendency to bend the screw, because the end-thrust is received by the end of the screw and at a point on all sides of its axis.

*Sixth.* The duplication of the rosettes necessarily occupies a much longer space on the screw than the single rosette, as in complainant's patented wrench, thereby materially reducing the bending capacity of the jaws or else necessitating a longer wrench-bar or a shorter handle.

Int. 21. What will be the effect of a considerable length of use upon the shape of the rosettes in the Taft patent wrench, and what in complainant's patented wrench?

Ans. In the Taft patent wrench the rosettes will be battered up and enlarge their diameter, so as to bear upon the bottom of the slots and create greater friction than before; they will also wear off so as to become beveled on their bearing sides, as is demonstrated by reference to Complainant's Exhibit Coes' Old Wrench, which has a single rosette bearing in a slot in like manner.

When these rosettes are so beveled off by wear the tendency to bend the screw is greatly increased. In the complainant's patented wrench the end of the rosette has such a broad bearing surface that it will not become thus battered, and in wearing off will wear on a much larger surface so as not to bevel off its corners.

Some of these defects are evidenced by Joshua S. Wheeler, defendants' witness, and by the old Coes wrench produced by him.

*Joshua S. Wheeler's testimony:*

(Record page 24.)

X-Int. 7. I call your attention to the teeth on the periphery of the rosette, and ask you if you observe that those teeth at the bottom or lower end of the rosette are wider or enlarged somewhat, as compared with the remainder of those teeth?

Ans. I see that they are, somewhat.

X-Int. 9. Was it caused by the strain against the ferrule, or was it caused by the pressure of the rosette against the bottom of the notch in the bar?

Ans. I couldn't say. It may be by the notch. It was by usage of the wrench.

X-Int. 10. As that wrench is constructed, do you see any liability or tendency on the part of the bottom of those teeth to come in contact with the top of the ferrule?

Ans. I do, next to the bar. I have used that same kind of a wrench where it would bear back so as to split the wooden handle.

X-Int. 12. There is on the lower end of the rosette a slight cut-away near the periphery. Was that cut away on the rosette when you bought it?

Ans. Not to my knowledge.

X-Int. 13. Has it been caused by the use of the wrench?

Ans. I should think that it had.

X-Int. 14. Was it caused by the bearing of the rosette on the ferrule, or by the bearing of the rosette on the bottom of the notch in the bar?

Ans. I couldn't say. I should say perhaps both.

## Comparison with Spurious Prior Art.

There is only one kind of thing in the spurious prior art with which the patented improvement of Jordan & Smith is to be compared and that is the riveting of a sort of a step to the wrench bar, as shown in the rejected applications of Atwood and Whipple.

A step riveted to the wrench bar is a practically worthless thing and in excellence and mechanical characteristics, in no wise approaches a step supported by a nut.

### *James Shepard's Rebuttal Testimony:*

(Record page 63.)

Int. 14. Does or does not a wrench having a step-plate riveted to the bar come up to, or have, the mechanical characteristics of a wrench having a step-plate supported by a nut on the bar, as in complainant's patented wrench?

Ans. It does not.

*First*, because the step-plate can not be readily removed and replaced for the purpose of repairing any of the parts or substituting a new part for one removed.

*Second*, it does not support the step-plate so firmly because it is supported only by a rivet on two sides of the bar, whereas in the complainant's wrench the complete under side of the step is supported upon all sides of the bar.

*Third*, under great pressure, if the step or bar did not bend or break, they would act like shears and cut off both ends of the rivet. There is no such action in complainant's wrench. The construction of the riveted wrench is much more difficult and requires great care in order to bring the step-place firmly up against the shoulder on the bar, whereas, in the complainant's wrench, the nut will readily bring the step into place.

*Fourth*, the step-plate is greatly weakened by the rivet hole, and is not strengthened by the rivet so that the step plate would be liable to break off under the great pressure often brought to bear upon the step-plate when in use, whereas, in the complainant's wrench, the step-plate is not thus weakened, but is backed up by the nut so as to be strengthened.

*Fifth*, the rivet hole materially weakens the bar at a vital point, whereas, in the complainant's wrench, the bar is not cut or weakened at all at that point, and the bar

for some distance below the step is greatly strengthened and supported by means of the surrounding nut.

*Sixth*, in case it is desirable for any reason to substitute a new step plate, it would be very difficult to drill one so as to have the rivet holes therein properly coincide with the rivet-hole in the wrench-bar, and if they did not coincide they would have to be filed or reamed out larger, which would still further weaken the parts. No such difficulty exists when the step is secured by means of the nut, as in complainant's wrench.

*Christopher M. Spencer*, inventor of the Spencer rifle and much other practical machinery, machinist and superintendent of the Hartford Machine Screw Company, testifies—(record page 70):

Ans 6, A rivet through the step-plate necessarily weakens the step-plate, also the bar. In repairing a step-plate so constructed the difficulty of making the holes in the bar and plate to interchange would necessitate enlarging the holes each time to make a pin or rivet fit properly, whereas in the wrench with a step-plate supported by a nut, it may be removed and a new one replaced without any extra expense or trouble than removing the nut and plate. If I were to buy wrenches I should in all cases prefer the one with step-plates supported by a nut.

*Wm Mason*, machinist, inventor, and foreman at Colt's Arms Manufactory, testifies (record page 73):

Ans. 6. These wrenches, in practical use, are subjected to frequent and severe strains, by which the bar is sometimes bent or broken. The rivets for the purpose in question, fatally weakens the bar. Besides, when the bar is thus bent, or other repairs are needed, if the nut is used to support the step-plate, it may be readily removed, and repairs readily done, and the wrench more properly readjusted by screwing on the nut against the step-plate to a point that may compensate for wear of the parts. If the rivet is used, is must be drilled or chipped out, and a new one substituted.

The strains put upon the wrenches in use, and the necessity for repairs, are evidenced by Joshua S. Wheeler, defendants' witness, in producing Coes Wrench, Original Manufacture:

"The bar has been bent three or four times and straightened."

## Utility of Jordan & Smith's Improvement,

*Luke Chapman's testimony.* (Record page 18.)

Int. 1. What is your name, age, residence, and occupation?

Ans. My name is Luke Chapman; my age, forty years; my residence, Collinsville, Connecticut; and my occupation, I am master-mechanic for the Collins Company, and have held that position for the last fourteen years, and have been in their employ for the last sixteen years.

Ans. I do, next to the bar. I have used that same kind of a wrench where it would bear back so as to split the wooden handle.

X-Int. 12. There is on the lower end of the rosette a slight cut-away near the periphery. Was that cut away on the rosette when you bought it?

Ans. Not to my knowledge.

X-Int. 13. Has it been caused by the use of the wrench?

Ans. I should think that it had.

X-Int. 14. Was it caused by the bearing of the rosette on the ferrule, or by the bearing of the rosette on the bottom of the notch in the bar?

Ans. I couldn't say. I should say perhaps both.

## Comparison with Spurious Prior Art.

There is only one kind of thing in the spurious prior art with which the patented improvement of Jordan & Smith is to be compared and that is the riveting of a sort of a step to the wrench bar, as shown in the rejected applications of Atwood and Whipple.

A step riveted to the wrench bar is a practically worthless thing and in excellence and mechanical characteristics, in no wise approaches a step supported by a nut.

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(Record page 63.)

Int. 14. Does or does not a wrench having a step-plate riveted to the bar come up to, or have, the mechanical characteristics of a wrench having a step-plate supported by a nut on the bar, as in complainant's patented wrench?

Ans. It does not.

*First*, because the step-plate can not be readily removed and replaced for the purpose of repairing any of the parts or substituting a new part for one removed.

*Second*, it does not support the step-plate so firmly because it is supported only by a rivet on two sides of the bar, whereas in the complainant's wrench the complete under side of the step is supported upon all sides of the bar.

*Third*, under great pressure, if the step or bar did not bend or break, they would act like shears and cut off both ends of the rivet. There is no such action in complainant's wrench. The construction of the riveted wrench is much more difficult and requires great care in order to bring the step-place firmly up against the shoulder on the bar, whereas, in the complainant's wrench, the nut will readily bring the step into place.

*Fourth*, the step-plate is greatly weakened by the rivet hole, and is not strengthened by the rivet so that the step plate would be liable to break off under the great pressure often brought to bear upon the step-plate when in use, whereas, in the complainant's wrench, the step-plate is not thus weakened, but is backed up by the nut so as to be strengthened.

*Fifth*, the rivet hole materially weakens the bar at a vital point, whereas, in the complainant's wrench, the bar is not cut or weakened at all at that point, and the bar

for some distance below the step is greatly strengthened and supported by means of the surrounding nut.

*Sixth*, in case it is desirable for any reason to substitute a new step plate, it would be very difficult to drill one so as to have the rivet holes therein properly coincide with the rivet-hole in the wrench-bar, and if they did not coincide they would have to be filed or reamed out larger, which would still further weaken the parts. No such difficulty exists when the step is secured by means of the nut, as in complainant's wrench.

*Christopher M. Spencer*, inventor of the Spencer rifle and much other practical machinery, machinist and superintendent of the Hartford Machine Screw Company, testifies—(record page 70):

Ans 6, A rivet through the step-plate necessarily weakens the step-plate, also the bar. In repairing a step-plate so constructed the difficulty of making the holes in the bar and plate to interchange would necessitate enlarging the holes each time to make a pin or rivet fit properly, whereas in the wrench with a step-plate supported by a nut, it may be removed and a new one replaced without any extra expense or trouble than removing the nut and plate. If I were to buy wrenches I should in all cases prefer the one with step-plates supported by a nut.

*Wm. Mason*, machinist, inventor, and foreman at Colt's Arms Manufactory, testifies (record page 73):

Ans. 6. These wrenches, in practical use, are subjected to frequent and severe strains, by which the bar is sometimes bent or broken. The rivets for the purpose in question, fatally weakens the bar. Besides, when the bar is thus bent, or other repairs are needed, if the nut is used to support the step-plate, it may be readily removed, and repairs readily done, and the wrench more properly readjusted by screwing on the nut against the step-plate to a point that may compensate for wear of the parts. If the rivet is used, is must be drilled or chipped out, and a new one substituted.

The strains put upon the wrenches in use, and the necessity for repairs, are evidenced by Joshua S. Wheeler, defendants' witness, in producing Coes Wrench, Original Manufacture:

"The bar has been bent three or four times and straightened."

## Utility of Jordan & Smith's Improvement,

*Luke Chapman's testimony.* (Record page 18.)

Int. 1. What is your name, age, residence, and occupation?

Ans. My name is Luke Chapman; my age, forty years; my residence, Collinsville, Connecticut; and my occupation, I am master-mechanic for the Collins Company, and have held that position for the last fourteen years, and have been in their employ for the last sixteen years.

Int. 2. State whether the Collins Company have made and sold wrenches like those described and claimed in complainant's reissue patent No. 5,294, and if they have, to what extent.

Ans. They have made and sold wrenches made under that patent, which they own. About 400,000 wrenches have been made and sold by them, between November, 1866, and the present date.

[Date of this testimony November 29, 1878.]

Int. 3. State, if you know, what wrench, if any, prevailed in the market prior to the introduction to the market of this Jordan & Smith wrench; by which, I mean, a wrench like that described in complainant's reissued patent No. 5,294.

Ans. A wrench manufactured by the Coes Company of Worcester, Massachusetts, called Coes' wrench, like the one I now hold in my hand, which I now offer in evidence.

(The said wrench is put in evidence, and marked "Complainant's Exhibit Coes Old Wrench. Nov. 29, 1878, William H. Myer, Special Examiner.")

Int. 4. State if you know what style of wrench, if any, has prevailed in the market since the introduction to the market of what I have styled the Jordan & Smith wrench.

Ans. The wrench like Complainant's Exhibit Defendants' Manufacture, which exhibit I now hold in my hand.

No stronger testimony to the utility of Jordan & Smith's improvement could be given than is given by the fact that the two largest wrench-making concerns in the world, L. Coes & Company and A. G. Coes & Company, have been compelled to persistently infringe this patent in order to remain in the market.

This review of the prior art in comparison with Jordan & Smith's improvement shows that Jordan & Smith were the first to sustain a removable step independent of the handle and were the first to use a nut immediately beneath a step. It also appears that this improvement was one of very great practical utility.

## THE SO-CALLED DIXIE WRENCH.

This is an all-important part of the prior art and for that reason we take it up specifically. We claim with reference to it, *first*, that it is not proved with that certainty which the law requires; and, *second*, that if proved, it does not negative the presence of patentable invention in Jordan & Smith's improvement.

### FIRST. THE DIXIE WRENCH IS NOT PROVED.

The Dixie wrench *as produced in evidence has no nut.* It was produced in—

*George W. Wakefield's testimony.* (Record, page 19.)

Int. 4. Have you a wrench such as manufactured at the time stated in the shop of E. F. Dixie? If so, will you please produce it and state when it was made?

Ans. I have. It was made in 1853. I produce it to be marked "Defendants' Exhibit Dixie Wrench."

We wish to have it distinctly understood that the Dixie wrench placed in evidence had no nut whatever at the upper end of the handle.

*Excerpt from Judge Lowell's Opinion.*

(Record page 150.)

"There is a disputed question of fact whether the 'Dixie' wrench had a nut which resembled the plaintiff's. That was not a patented tool, but was made and sold to a considerable extent before the Coes wrench became known. It seems to me to be proved that this wrench was sometimes made with a nut into which the handle of the wrench was inserted: but it was not always made so and *the specimen in court does not have that construction.*"

We repeat, for it is important, that in the Dixie wrench produced in evidence (and there was but one) there was no nut whatever at the upper end of the handle. Now, with this point made clear, let us proceed to examine the evidence as to the Dixie wrench ever having such a nut, and first, let us settle conclusively what kind of evidence is necessary to prove such a thing.

*Cases.*

As to an "invention or discovery relied upon as a defense." "The burden of proof rests upon him" (who makes such defense) "and every reasonable doubt should be resolved against him."

*Coffin* v. *Ogden*, 18 Wallace, 120, Sup. Ct. 1873. 2 Whitman's Patent Cases, (468.)

"A patentee is entitled to the presumption of priority which his patent affords, and this presumption is only overcome by clear and satisfactory proof to the contrary. Some of the cases hold that the defense that the patentee was not the original and first inventor of the patented subject, can only prevail when shown beyond any reasonable doubt.

*Rogers* v. *Beecher*, 3 Fed. Rep., (639) Wallace, 1880.

"It should be remembered that the patent is *prima facie* evidence that the patentee was the original and first inventor. Any one who controverts this assumes the burden of proof and undertakes to show affirmatively that there was a prior knowledge and use of the alleged invention under such circumstances as to give the public the right of its continued use against the patentee. This the defendants have failed to do. The evidence introduced by them is frequently contradicted, and is inconsistent with itself and many well established facts."

*Crouch* v. *Speer, et al.*, 6 Official Gazette, (188.) Nixon, 1874.

"In order to defeat the patent on the ground of want of novelty the proof of prior use or previous knowledge must be such as to establish the fact clearly and satisfactorily and beyond a reasonable doubt. When the proofs are contradictory, *mere* preponderance is not sufficient to sustain the allegation. The preponderance in such case must be such as to remove all reasonable doubt."

*Hawes* v. *Antisdel*, 8 Official Gazette, (685.) Longyear, 1875.

"The confidence of the attacking witnesses is often in proportion to the distance in time that one is removed from the other. Their imagination is wrought upon by the influences to which their minds are subjected and beguiles their memory. When the defense is made, it is the duty of courts and juries to give it effect. But such testimony should be weighed with care, and the defense allowed to prevail only where the evidence is such as to leave no room for a reasonable doubt upon the subject."

*Wood et al.* v. *Cleveland Rolling Mill Co.*, 4 Fisher's Patent Cases, (559–60) Swayne, 1871.

"The evidence must establish clearly the priority of a completed useful machine, over the complainant's, or it is unavailing —to doubt upon this point is to resolve it in the negative."

*Parham* v. *Am. B. O. & Sewing Machine Co.*, 4 Fisher's Patent Cases, (482.) McKennan—with Strong—1871.

"When the defense of want of novelty is made, it is the duty of the tribunal, whether court or jury, to give it effect; but such proof

or testimony should be weighed with care and never be allowed to prevail when it is unsatisfactory."

*Miller* v. *Smith*, 5 Fed. Rep., (364), Clifford, 1880.

By the court: "These claims are said to have been anticipated by the Pohl iron frames. The maker testified that he made in Baltimore in 1865, five iron frames in which the endbars or bows, as he styles them, were from five-eighths of an inch to one and one-fourth inches square, and were inclined towards the bed bottom, making an inclination of about three-sixteenths of an inch. None of the bed bottoms are produced. They probably can not now be found. The testimony of Mr. Pohl stands alone. His application for a patent does not describe the frames. This evidence is the unsupported testimony of a person in regard to a minor detail of the way in which a few frames were made fifteen years ago. It is unsufficient to overcome the presumptions which belong to the patent."

*Woven Wire Mattress Co.* v. *Wire Webb Bed Co.*, 8 Fed. Rep., (89-90,) Shipman, 1881.

The courts are in entire accord as to what kind of evidence must be adduced to prove prior use. It must be sufficient, cogent and conclusive. There must be no substantial doubt about it. There must be no substantial contradictions in it. Now let us adduce the evidence which defendants offer on this point and apply these tests to it.

*George W. Wakefield's testimony.*

(Record page 19.)

Int. 1. What is your name, age, residence and occupation?

Ans. My name is George W. Wakefield; I am forty-nine years old; I live in Worcester, Mass, and am a machinist.

Int. 2. Have you ever been engaged in the manufacture of wrenches; and if so, when and where?

Ans. I have; In Worcester, in 1852 to 1853.

Int. 3. What were the wrenches which you manufactured at that time, and did you carry on the business for yourself, or by whom was it carried on?

Ans. The wrench known as the Hewitt wrench. I was employed by E. F. Dixie as foreman of his shop.

Int. 4. Have you a wrench such as manufactured at the time stated, in the shop of E. F. Dixie? If so, will you please produce it and state when it was made?

Ans. I have. It was made in 1853. I produce it to be marked "Defendants' Exhibit, Dixie Wrench."

Int. 5. Where did you procure this wrench? Give a history of it since you have had it.

Ans. I took it from the shop that I was employed in, in 1853, and it has been in my possession ever since, never having been in use, only what I have used it in my house.

Int. 6. State whether the wrench has ever been taken apart while in your possession; if so, when, and under what circumstances.

Ans. It has never been taken apart until yesterday. I took it apart to show the counsel how it was put together.

Int 7. In making these wrenches at the shop of Mr. Dixie, will you state in what way the ferrule, which is just back of the rosette on the worm or adjusting screw, was applied?

Ans. It was screwed on when I first took charge of the shop and never was done in any other way. The ferrule was screwed on so as to leave enough play for the worm or adjusting screw to work easy. These shanks were cut with a die, the ferrule was tapped out with a regular tap, which was usually screwed on to its proper place with a wrench.

Int. 8. To what extent were wrenches, like this one marked "Dixie Wrench" manufactured in the shop of E. F. Dixie while you were foreman there, and in what variety of sizes, as far as you remember?

Ans. To the best of my knowledge, I should say three or four hundred a week. The sizes run 12, 15, and 21; mostly twelves.

This is the whole of the direct testimony of Mr. Wakefield, and it is all of his testimony that is important to consider. We can dismiss the 8th Int. and its answer from further consideration for the reason that it refers specifically to "wrenches like this one marked 'Dixie Wrench,'" which has no nut whatever at the upper end of the handle. Now let us consider the remainder of Mr. Wakefield's testimony. He says in answer to Int. 7 that the ferrule at the upper end of the handle was a nut when he "first took charge of the shop," (which was in 1852) "and never was done in any other way," (covering that part of 1852–3 while Mr. Wakefield was foreman) Yet, he produces a wrench made there in 1853: "Defendant's' Exhibit Dixie Wrench," in which the ferrule at the upper end of the handle is *not* a nut. The production of this wrench, having no nut at the upper end of the handle and made at Dixie's shop in 1853, disputes and contradicts in the most positive manner the assertion of this witness that its ferrule at the upper end of the handle was a nut when he "first took charge of the shop and never was done in any other way." Applying to the testimony of this witness the settled tests of the law,

it utterly fails to prove the practical use of the nut at the upper end of the handle in the Dixie wrench, because it is contradicted in the most positive manner by a witness that cannot be mistaken:—the wrench he produces.

*Testimony of Edmund Crosby.*

(Record page 21.)

Int. 1. State your name, age, residence, and occupation.

Ans. Edmund Crosby; I am fifty-nine years old; I live at South Hadley Falls, Mass, and am a shop-keeper.

Int. 2. Were you ever in the employ of E. F. Dixie, at Worcester, Mass.; if so when first, and where was his shop?

Ans. I was in his employ in 1850; his shop was in South Worcester.

Int 3. What did he manufacture at that time while his shop was at South Worcester?

Ans. Monkey wrenches.

Int. 4. Of what kind?

Ans. They were called the Hewitt wrench.

Int. 5. Please look at the wrench now shown you, marked "Dixie Wrench," and state how it agrees with or differs from the wrench which was manufactured in E. F. Dixie's shop, at South Worcester.

Ans. We didn't make but very few of this size there. We made 6, 8, and 10 inch mostly. We made a few of these 12 inch. They were all like this, only the ferrules were thin and were drove on to the end of the handle, and that driven on to the end of the wrench-bar.

Note what this witness says right here as to the construction of the Dixie wrenches. He says the ferrules "were drove on to the end of the handle and that driven on to the end of the wrench-bar." In other words, he says distinctly that the Dixie wrenches did not have a nut at the upper end of the handle: if those ferrules had been nuts they must have been *screwed on*; they could not have been *driven on*.

Note that this witness says of these Dixie wrenches "they were *all* like this." Let us proceed with this witness' testimony.

Int. 6. Do you know whether or not wrenches like that marked "Dixie Wrench," with the ferrule screwed upon the wrench-bar, were manufactured by E. F. Dixie? If so, when and where was his shop, and what was the occasion of it?

Ans. They were, in 1851. His shop was on Exchange and Union Streets. He had been to New York, and somebody who had bought them had found fault about the handle shoving back, and wanted to know if he couldn't have them screwed on the 10 and 12 inch. They had been screwed on the 15s and 21s before, but I had never manufactured any of them.

Int. 7. What part of the work did you do in the manufacture of the Dixie wrenches?

Ans. I used to do some of all of it. I had the contract and hired the help.

Int. 8. How much did Mr. Dixie pay you for each wrench?

Ans. Thirty-three cents for the four smallest sizes. I think it was $1.25 for the 15s and 21s; I am not positive. I think the 15s and 21s were the same price

Int. 9. Did he always pay you the same price for the four small sizes?

Ans. Two of the small sizes, 10 and 12, he paid me one cent extra for cutting the screw on the bar, tapping out the ferrules and putting them on.

Int. 10. Up to what time were you in the employ of Mr. Dixie?

Ans. I quit him some time in 1853.

Int. 11. While you were in his employ, to what extent were wrenches like that marked "Dixie Wrench," having the ferrule screwed upon the shank, manufactured?

Ans. Three hundred a week was the contract.

Int. 12 Was there any difference in the appearance of the ferrules used upon these Dixie wrenches, whether they were intended to be driven on the shank or screwed upon it?

Ans. There was a difference in the looks of 'em. Those that were drove on were longer; they were tapering and you couldn't get a good fit on 'em.

The answer of this witness to the last question shows that he well understands the difference between a ferrule which is *driven* on and one which is *screwed* on, so that he must have made his answer to Int. 5 advisedly. The closing part of the answer to Int. 5 is as follows.

"They were all like this, only the ferrules were thin and were drove on to the end of the handle, and that driven on to the end of the wrench-bar."

This answer to Int 5 contradicts, under settled rules of law, and nulifies so much of his testimony as tends to show that in Dixie's manufacture the ferrule at the upper end of the handle was a nut. But let us proceed.

Int 13. Will you please look at the ends of the wooden handle upon the wrench marked "Dixie Wrench," and state whether it agrees in construction with all the handles which were used upon the Dixie wrenches manufactured by you?

[Objected to as leading.]

Ans. It does not with any of them that I see put on.

Int. 14. State how it differs.

Ans. There was a shoulder cut on the upper end, one sixteenth of an inch long, to drive into the ferrule, and the lower end used to fit into the tip or nut.

Int. 15. You say in answer to Int. 11 that the contract was to manufacture three hundred wrenches per week, like the wrench marked "Dixie Wrench." How nearly did you come to the contract in the manufacture?

Ans. I couldn't tell exactly. I think we got out two thirds of it.

This is the whole of the direct testimony of Mr. Crosby. It will be noted that in his last answer he assents to the proposition

of the question, which was "that the contract was to manufacture three hundred wrenches per week like the wrench marked 'Dixie wrench,'" in other words a wrench having no nut at the upper end of the handle.

*Testimony of Henry S. Crosby.*

(Record page 28.)

Int. 6. Please look at the wrench marked "Dixie Wrench," and say if you ever saw one made like that, with a ferrule screwed upon the shank of the wrench, as therein constructed; and if so, when first and where?

Ans. I have seen a great many of such wrenches; in 1851 I think I first saw them, at Worcester, corner of Exchange and Union Streets, in E. F. Dixie's shop.

Note that this question refers specifically to the construction embodied in the Dixie wrench in evidence, in which there is no nut at the upper end of the handle.

Int. 7. While employed in Mr. Dixie's shop, did you have anything to do with the manufacture of wrenches like Exhibit Dixie Wrench; if so, what?

Ans. I made the worms and turned the bars, ready for cutting the threads.

Note again that this question refers specifically to the Exhibit Dixie Wrench, in which there is no nut at the upper end of the handle.

Int. 8. How does the wrench, Exhibit Dixie, agree in construction with those manufactured at his shop while you were employed there, and which you assisted in making?

Ans. I should think it agreed with them.

Note again that this question refers specifically to the Exhibit Dixie in evidence, in which there is no nut at the upper end of the handle, and that this witness here says that this Exhibit Dixie agrees in construction with those manufactured at his shop.

Int. 9. Please state what difference, if any, you find between this wrench marked "Dixie Wrench," and those which you assisted in making at Mr. Dixie's shop at the time you were employed there?

Ans. I don't find any difference only the handle. It used to, if I remember right, shut down into the ferrule a trifle.

Note again that this question refers specifically to the Dixie wrench, in which there is no nut at the upper end of the handle.

Int. 10. During the time that you were employed at Mr. Dixie's shop to what extent were wrenches like the one marked "Dixie Wrench" manufactured there?

And. Well, I should think from two to four hundred a week.

Note again that this question refers specifically to the Dixie wrench, in which there is no nut at the upper end of the handle. It can not be reasonably claimed that the testimony of this witness gives the kind of proof of prior art that the law requires.

*Testimony of George C. Taft.*

(Record page 27.)

Int. 2. Please look at the wrench marked "Dixie Wrench" and state if you ever saw one constructed like that, and if so, when and where.

Ans. I have seen a good many constructed just like it, in the years 1851 and 1852, in E. F. Dixie's shop, corner of Union and Exchange streets, Worcester.

Note that this question and answer refer specifically to the Dixie wrench in which there is no nut at the upper end of the handle.

Int. 3. Did you ever have any conversation with Mr. Dixie in regard to the use of a ferrule screwed upon the shank of such wrenches, as shown in Exhibit Dixie Wrench? If so, when and what was the substance of the conversation?

[Objected to as calling for hearsay evidence.]

Ans. I did in 1851, at his office on Main Street. He had been to New York and found that some parties found fault with his wrench, on account of the pressure driving the ferrule back into the wood of the handle. He made the remark that his workmen didn't half do their work. He brought some of the wrenches home with him. I examined them and saw at once what the difficulty was, and made the remark that I should screw the ferrule on. I think he put the matter into Mr. Wakefield's hands and he made the alteration. Wakefield or Crosby. I won't say which, but it was one of them.

Note the objection made to this question: that objection we insist on. Note, moreover, that this answer states no *facts* whatever as regards the question now under consideration. It merely states a conversation between Taft and Dixie in which Taft assumes that he suggested to Dixie that he should make the ferrule at the upper end of the handle a nut.

Int. 4. Did you have occasion at any time, to observe the manufacture of wrenches like that marked "Dixie Wrench" in the shop of E. F. Dixie? If so, to what extent were they manufactured, and what was the occasion of their being brought to your notice?

Ans. I have seen them in the shop. I have been in the shop frequently. Being in the wrench business, I forged his bars for him for a considerable time, and being well acquainted, he frequently came to me for advice. The extent of his manufacture I couldn't state positively, but to the best of my judgment, he must have manufactured from two to three hundred a week.

Note that this question and answer refer specifically to the Dixie wrench, which has no nut at the upper end of the handle.

There is nothing whatever in the testimony of this witness in the nature of the proof which the law requires of prior use. Moreover, the subsequent actions of this George C. Taft are practically conclusive proof that he knew nothing in 1851 and 1852 of this idea of relieving a wooden handle from back pressure by using a nut at the upper end. Is it supposable that if he had had this knowledge in 1852 he would in 1858 have originated the clumsy mode, which is shown in his patent of that year for that purpose, of having projections on the rosette intermeshing with corresponding grooves in the bar, or that in 1863 he would have been attempting the same thing as he did in 1858, with the modification that in the latter case the projections and grooves are at right angles to the end of the bar instead of being spiral thereon as in the patent of 1858? Such a supposition is an entirely unreasonable one and Mr. Taft's action in taking his 1858 patent, and in taking his 1863 patent, are evidence of the strongest kind that he did not have in 1851–2 any knowledge of that simple and positive mode of relieving the wooden handle from back pressure which consists in using a nut at the upper end thereof.

There is a fact of great significance in the action of Loring Coes & Company, defendants in this case, in connection with this claim that Dixie used a nut at the upper end of the wooden handle of a wrench in 1850–3. Loring Coes & Company have been manufacturers of monkey-wrenches in Worcester since a time anterior to 1841: probably during all that time the largest wrench-making concern in the world. The present claim of the defendants is that in 1850–3 Dixie put into practical use in the manufacture of wrenches in Worcester, practically right alongside the factory of L. Coes & Company, the idea of relieving the wooden handles of wrenches from back pressure by using a nut at the upper end thereof. That idea has proved to be of immense practical value and Loring Coes & Company and A. G. Coes & Company have adopted it ever since Jordan & Smith published it to the world in their patent. Now if Dixie had published that idea to the world in 1851–3, in the practical manufacture of wrenches, in a shop which is neighbor to that of L. Coes & Company and A. G. Coes

& Company, why in reason didn't L. Coes & Company and A. G. Coes & Company adopt that idea before Jordan & Smith published it to the world in 1865? The fact that this idea of relieving a wooden handle of a wrench from back pressure by a nut at the upper end of the handle is of such great practical value that L. Coes & Company and A. G. Coes & Company adopted it shortly after the publication of Jordan & Smith's patent, is evidence of the highest kind that these defendants had no knowledge of any such idea prior to Jordan & Smith's improvement, and the inference is irresistible that L. Coes & Company would have had such knowledge if Dixie had, as is claimed, practically put this idea into public use in Worcester in 1850–3.

The facts about this claim of the prior use are these: *first*, the testimony of each witness is contradictory of itself; *second*, the testimony of one witness is contradictory to that of another; *third*, the taking of Taft's patents of 1858 and 1863 tend to contradict the claim made for Dixie in 1852–3; *fourth*, the non-using of the nut at the upper end of the handle by the defendants, until after Jordan & Smith's patent, tends to disprove the claim made for Dixie in 1852–3; *fifth*, the wrench of Dixie's manufacture actually made in 1853, and subsequent to the time when it is claimed that Dixie used the nut at the upper end of the handle, tends to disprove the claim that Dixie used the nut at the upper end of the handle in 1852.

Can it be said for one moment that this testimony as to the practical use of the nut by Dixie is such as to leave the mind clear from doubt? And if there be doubt about the matter is not that doubt to be resolved against the party who claims the benefit of such a prior use, to wit: the defendants in this case?

While there is enough in the evidence produced by the defendants to make one suspect that Dixie may have entertained the idea of using the nut at the upper end of the handle, and may possibly have made some wrenches of that construction tentatively and experimentally, there certainly is not enough in this evidence that defendants produce to satisfy the mind that he practically made and sold wrenches having a nut at the upper end of the handle.

It is to be remembered that 1852, when Dixie is claimed to have used this nut at the upper end of the handle, is twenty-seven

years prior in point of time to 1879, when these witnesses testify, and in that length of time, and under the stress of defendants' desire, there is ample explanation for the conversion of what was an experiment on the part of Dixie into practical manufacture, when these witnesses came to testify.

SECOND. THE DIXIE WRENCH DOES NOT NEGATIVE JORDAN & SMITH'S INVENTION.

But if we were to admit that Dixie did use a nut at the upper end of a wooden handle to some small extent in 1852, and if we were to charge Jordan & Smith with constructive knowledge of that use on the part of Dixie (for they certainly had no actual knowledge, as Judge Lowell points out in his opinion) it is still true under settled principles of law that the combination of Jordan & Smith contains patentable invention.

Defendants' argument must be that Jordan & Smith took the Coes wrench of 1841 and put under its step the nut of the Dixie wrench; that the change was obvious and brought no new result.

*Jordan & Smith's Improvement was not an Obvious One.*

The facts in evidence support this proposition. Assuming that Dixie used the nut at the upper end of the handle in 1852, these defendants and all other wrench-makers, are to be charged with knowledge of that fact as thoroughly and fully as Jordan & Smith are to be charged with knowledge of that fact; the other fact is in evidence that since Jordan & Smith disclosed their invention to the world in 1865, it has dominated the wrench market, and domination of the market by that improvement shows conclusively what a great stress there was upon manufacturers and mechanics to adopt this improvement, if Dixie's performances had made it obvious in 1852. Yet, from 1852, when Dixie is said to have given the knowledge of this use of a nut to the world, and for more than fifteen years, the two Coes concerns, and all other wrench-makers, continued to make the wrenches with the old recognized and serious defect, and George C. Taft, who testifies in this evidence to have had knowledge of this use of the nut in 1852,

is found in 1858 and again in 1863, attempting to cure that recognized and serious defect in an expensive way, and in a practically foolish way; and we find these very defendants purchasing Taft's patent of 1863, wherein he attempts to transfer the back pressure of the movable jaw to the shank by means of projections on the rosette intermeshing with corresponding grooves in the wrench-bar. In the face of these facts it is idle to attempt to maintain that the improvement made by Jordan & Smith was an obvious one; the facts in evidence all contradict such an assumption.

*Jordan & Smith' Combination gave New Results and Advantages:*

All that can be claimed for the nut in the Dixie wrench, supposing it ever to have existed, is that it relieved the wooden handle from the back pressure coming from the movable jaw. That is not the sole advantage obtained in the combination of step and nut which was made by Jordan & Smith: in that combination it is true the nut relieves the wooden handle from the back pressure emanating from the movable jaw, but it does something more than that, to wit: *first*, it is a means of rigidly fastening the step-plate at its proper angle on the wrench-bar between the nut and the shoulder on the wrench-bar above the step, rendering a nice fitting of the step to the wrench-bar unnecessary, and maintaining the step in its proper direction of lateral projection by means of this fastening between the nut and the shoulder much more perfectly than is possible in any other way; and *second*, the nut furnishes a means of re-adjusting the step to its proper height and its proper direction on the wrench-bar after the parts have been gotten out of their proper relation to each other by use and wear. These two advantages and results just named are advantages and results different from, and other than, that advantage and result which consists in relieving the wooden handle from the back pressure emanating from the movable jaw, and neither of these advantages or results just mentioned are to be found either in the Dixie wrench (if it ever were supplied with a nut at the upper end of the handle) or in the Coes wrench.

Comparing the Jordan & Smith combination with the Dixie wrench (on the supposition that it had a nut at the upper end of

the handle) and with the Coes wrench of 1841, we find from the evidence, *first*, that the change was not an obvious one; and, *second*, that the change resulted in advantages and improvements not to be found either in the Dixie wrench or in the Coes wrench. We have in this connection the third fact that the Jordan & Smith improvement when made, proved to be of enormous practical value. These facts ought to be sufficient to evidence the presence of patentable invention in the Jordan & Smith improvement.

*Cases.*

"The fact that these older devices, which is now claimed were susceptible of being modified by mere mechanical skill into a machine in its operation and effect like that shown by the complainant's patent, rested without any such modification until the present patent was promulgated, is quite conclusive proof to me that it required something more than mere mechanical skill to produce what is shown in this patent."

*Brown Mfg. Co.* v. *Deere*, 21 Fed. Rep., (713) Blodgett, 1884.

"Much is said in the evidence on the part of the defendants as to the obvious character of this or that arrangement, and that any mechanic would know enough to do this or that. This is the often repeated story in belittling inventions. The invention consists primarily in finding out what mechanical operation is necessary to produce the practical result arrived at. When such operation is hit upon, the mechanical work is easy. It is easy when the mechanical operation is seen to say that it was obvious that certain mechanical arrangements would effect it: but mechanical arrangements are tried and tried in vain to reach a practical result because the mechanical operation which is to effect such result is not yet seen. In looking at the completed thing the mechanical operation is there; but the inventor, though he knew all about cams and levers and other mechanical arrangements, did not have in advance before him the coveted mechanical operation.

*Wooster* v. *Blake, et al.*, 8 Fed. Rep., (433) Blatchford, 1881.

"Almost all inventions at this day, that become the subjects of

patents, are the embodiment and adaptation of mechanical appliances that are old. In that consists the invention. When the thing appears it is new and useful. No one saw it before; it is at once adopted; all in the trade desire to make and use it; yet, it is said to have been perfectly obvious and not to have been patentable. * * * It is easy after the desired thing is obtained to see how the old thing could have been adapted and altered."

*Crandal* v. *Watters*, 9 Fed. Rep.,(663-64), Blatchford, 1881.

"If it be true as alleged by defendant that all the parts embraced in the plaintiff's press may be found in the various devices previously used to compress hay, cotton, peat, and clay, the plaintiff's right to the new combination which he constructed would be none the less complete. It will not answer to say this required no invention; that any mechanic might have selected the parts and combined them. The same might be said with equal force in almost every instance in which a patent for a combination is issued. The fact that no mechanic did select and combine the parts and produce such a press, notwithstanding the great need for it, is a sufficient answer to the suggestion."

*Dederick* v. *Cassell, et. al.*, 9 Fed. Rep. (309,) Butler, 1881.

By the court: "Turning now to the invention claimed by Webster and described in the patent under consideration, we find that although it produced a great improvement in the art of weaving pile fabrics, yet, as actually exhibited, in conception and accomplishment it seems simple. The thing to be done was to combine the advantages of Bigelow's rigid lathe, divested of some of its defects, and his constant command of the wire with Weild's trough or wire-bar for supporting the wire. This Webster, or if not Webster some other person; effected by the devices and mechanism described in the patent."

* * * * * * *

"It is further argued, * , that the combination set forth in the fifth claim is a mere aggregation of old devices already well-known, and therefore it is not patentable. This argument would be sound if the combination claimed by Webster was an obvious one for attaining the advantages proposed—one which would occur to

any mechanic skilled in the art. But it is plain from the evidence and from the very fact that it was not sooner adopted and used, that it did not for years occur in this light to even the most skillful persons. It may have been under their very eyes; they may almost be said to have stumbled over it, but they certainly failed to see it, to estimate its value and to bring it into notice."

* * * * * * *

"Now that it has succeeded, it may seem very plain to any one that he could have done it as well. This is often the case with inventions of the greatest merit. It may be laid down as a general rule, though perhaps not an invariable one, that if a new combination and arrangement of known elements produce a new and beneficial result never attained before, it is evidence of invention. It was certainly a new and useful result to make a loom produce fifty yard a day, when it never before had produced more than forty, and we think that the combination of elements by which this was effected, even if those elements were separately known before, was invention sufficient to afford the basis of a patent."

*Webster Loom Co.* v. *Higgins, et. al.*, 21 Official Gazette, (2031), Sup. Ct., 1882.

*The Opposing Cases.*

*Pa. Railroad Co.* v. *Locomotive Engine Safety Truck Co.*, 110 U. S., 490.

This is *the* case which is supposed to contain the doctrine which is fatal to the complainant's patent in suit. This truck case is not a parallel to the present case. The Truck case as stated by the Supreme Court was: "The question therefore is whether employing as the forward truck of a locomotive engine, with fixed driving wheels, a truck already in use on railroad cars, has the novelty requisite to sustain a patent," when such use does not "produce a new result," and when "the effect of the invention upon the engine as compared with its effect upon the car, is the same in kind though perhaps less in degree."

That case, the truck case, was simply the bodily transferrence of a certain kind of truck from beneath a car to a like position beneath an engine. When the truck was in place beneath the

engine it was combined with and abutted against precisely the same kind of a vehicle-bottom, that it was combined with and abutted against when it was beneath the car. The upper part of the car vehicle was different from the upper part of the engine vehicle, but the combination, at the place of combination, was precisely the same in both cases. That is not the present case. In the present case, the wrench case, the combination is a new combination, at the place of combination: the step had never before been combined with the nut underneath it. Moreover, in the wrench case, new results and new advantages were attained by the new combination which were never present in the Coes wrench, and which were never present in the Dixie wrench, to wit: *first*, the nut immediately beneath the step became a means of rigidly fastening the step at its proper angle on the wrench-bar between the nut and the shoulder on the wrench-bar above the step, rendering a nice fitting of the step to the wrench-bar unnecessary, and maintaining the step in its proper direction of lateral projection by means of this fastening between the nut and the shoulder much more perfectly than is possible in any other way; and, *second*, the nut immediately beneath the step furnishes a means of re-adjusting the step to its proper height and to its proper lateral direction on the wrench-bar after the parts have been gotten out of their proper relation to each other by use and wear.

It will not answer to carry the doctrine of the truck case too far. To do so is destructive of all new combinations, for the elements of new combinations can always practically be found in different, separate prior structures, and the separate uses of these different elements must always be the same, or at least analogous; a nut always performs the function and purpose of a nut; a wheel always performs the function and purpose of a wheel; a lever always performs the office and function of a lever, &c., &c., &c. One discriminative test which arises right here is,—" is the combination a new one at the place of actual combination ? " If that question can be answered in the affirmative, as a rule it ought to be conclusive evidence of the presence of patentable invention in the new combination.

It may be readily granted that if a combination is new simply in a change of such parts as are not concerned in the actual com-

bination, patentable invention is not present in the new combination; but if the combination is new, at the actual place of combination, that is certainly one thing going to show the presence of patentable invention. This was practically the test which the Supreme Court applied in the case of *Webster Loom Co.* v. *Higgins*, 21 Official Gazette, 2031, when the Court said: "The thing to be done was to combine the advantages of Bigelow's rigid lathe, divested of some of its defects, and his constant command of the wire with Weild's trough, or wire bar, for supporting the wire."

Jordan & Smith not only did this, but they did more than this; they brought about new results and new advantages not to be found in either of the structures of the prior art. The non-obvious character of the change which Jordan & Smith made is evidenced by the fact that L. Coes & Company and A. G. Coes & Company did not, between 1852, the date of Dixie's performances, and 1865, the date of Jordan & Smith's patent, adopt the nut under the step. The great practical utility of the change Jordan & Smith made is evidenced not only by the large number of wrenches of that kind made and sold by this complainant, but also by the fact that L. Coes & Company and A. G. Coes & Company, the largest wrench makers in the world, were forced to adopt it in order to remain in the market.

*Bussey* v. *Excelsior Mfg. Co.*, 110 U. S., 131.

The point of that case as stated by the Supreme Court is as follows: "In view of the state of the art there was no invention, in claim one of the patent, in using to attach the base-pan, an old mode used in attaching other projecting parts of the stove. Claim two is merely for an aggregation of parts and not for a patentable combination there being no patentable relation between a portable reservoir with a flue in its rear side and the existence or portability of a base-pan beneath it. In claim three there is merely an aggregation of parts, there being no patentable relation between a damper for the middle flue of a three-flue stove and the existence or portability of a base-pan or the existence of a warming closet."

The said second and third claims were condemned expressly upon the ground that they actually covered mere aggregation of

parts, which is not claimed in the wrench case, and can by no means be claimed in the wrench case. The first claim was as follows:

"The detachable base-pan or flue-shell D attached to the body at a point near the center of the back-plate of the stove, by means of hooks *a a* cast on the base-pan, and pins *b b* on the stove body, substantially for the purposes herein set forth."

It is very clear that there was no new combination here at the place of combination: true it is that the other parts of the stove were changed, but the combination of the pins and hooks was precisely the same kind of a combination which had been used in stoves for like purposes, so that there is no parallel between this case and the case at bar.

*Double Pointed Tack Co.* v. *Two Rivers Mfg. Co.*, 109 U. S., 117.

In this case there were two claims in the patent in suit. The first of these claims was practically for beveling both points of the staple upon the same side so that both should be diverted upward in driving into the wood. It was old to bevel the two points of the staple on opposite sides so as to divert one upward and the other downward in driving into wood. All that the so-called inventor did was to apply to two points of the staple the same bevel which had previously been applied to one point of the staple, and thereupon the court said: "In view of this state of the art there was no patentable invention and nothing more than mechanical skill in putting the diagonal cuts or bevels on the same side of each leg of the staple so as to give both points, in driving, an inclination in the same direction, that direction being one away from both bevels, and in using the device to fasten a bail."

The question of new combination did not enter into this case. The present case is a question of new combination. There is no parallel between the two cases.

The second claim of the patent in suit in this tack case was for the combination of a common washer with the said staple: clearly there was no co-operation of action between the common washer and the peculiarities of the staple and the court properly said: "There is only an aggregation of parts when the staple is used

with the washer." That claim was expressly condemned on the ground of its covering a mere aggregation of parts. That question does not enter into the present case: there is therefore no parallel here.

*Philips* v. *Detroit*, 111 U. S. 604.

This was not a case of a new combination of old elements in a device of a mechanical nature, which is the case at bar. This pavement case involved practically the question of substitution of material; the citing of *Hotchkiss* v. *Greenwood*, shows that fact. It was a fact in this pavement case that a pavemeut made precisely like the patented one except that the paving blocks were stone, was old, and what the so-called inventor did was to substitute for the stone blocks wooden blocks which had also been used for paving, with no new result whatever. The pavement case is nowise parallel to the case at bar.

## INFRINGEMENT.

It will be seen without any special study that the wrenches of defendants' manufacture clearly infringe the first claim of the reissued patent is suit, for they have the step and the nut on the wrench-bar immediately beneath it. They also infringe the third claim, clearly, for the nut underneath the step performs the office of rigidly fastening the step to the bar; that is, the step is grasped between the nut and the shoulder on the wrench-bar above the step. Defendant's manufacture also infringes the second claim for, although the nut is not itself recessed to receive the upper end of the handle and support it, the ferrule which depends from the step is thus recessed and performs that function, and is held to place by the nut: in other words, wrenches of defendants' manufacture have an equivalent construction to that covered by the second claim.

*James Shepard's testimony.* (Record page 16.)

Int. 4. State whether, in your opinion, the wrench offered in evidence, and marked "Complainant's Exhibit, Defendants' Manufacture," embodies the mechanism or mechanisms described and claimed in said complainant's reissued patent No. 5,294, giving your reasons, if any you have, for your opinion.

Ans. It does. The wrench described in the patent is of that class of wrenches

having a fixed and a movable jaw, which are known as hammer wrenches. The movable jaw is adjusted to slide on a bar by means of a screw by the side of the bar, as in other wrenches of this class. The devices or mechanisms set forth specially in the patent as new consist, first, of a step which is slipped on the wrench bar and up against a shoulder thereon. This step contains the bearing for the lower end of the adjusting screw, and upon which step the entire strain of the pressure exerted upon the movable jaw to force it endwise with the bar, is brought to bear. This step is held firmly up against the shoulder on the wrench-bar by means of a screw nut immediately back of the step and fitted to a threaded portion of the wrench-bar at that point. Extending backwards towards the handle end of the wrench-bar from the nut, there is an annular flange, the interior walls of which form a recess into which the end of the wooden handle is inserted. The wooden handle is held in place by means of a small nut on the end of the wrench-bar. The advantages of this construction are, that the step may be pressed firmly up against the shoulder and held there in a very rigid and substantial manner, so as to prevent the force of the movable jaw from being transferred through the step to the handle, so as to batter the handle, and so as not to interfere with any of the working parts. Second, this mode of fastening the step does not in any manner weaken the wrench-bar, but, on the contrary, strengthens it. Third, the step can be very readily removed when desired for the purpose of repairing any of the parts; and, fourth, a mortise is provided back of the nut in this movable step whence to receive and support the inner end of the handle. I find in Complainant's Exhibit Defendants' Manufacture the same class of wrench and also the devices peculiar to the patent under consideration, to wit, a removable step slipped up against the shoulder on the wrench-bar, bearing the lower end of the screw for adjusting the movable jaw, which step is held firmly up against the shoulder by means of a screw nut on the threaded portion of the wrench-bar just back of the step, and also I find an annular flange extending from the nut backwards towards the end of the handle, the interior of which forms a socket back of the nut to support the end of the handle, and the handle is secured in place by means of a small nut at the end of the wrench-bar. I have not overlooked the fact that in the Complainant's Exhibit Defendants' Manufacture the annular flange is formed upon the step instead of upon the nut, and that the nut is placed inside the annular flange, but this difference I consider immaterial, as the nut is immediately back of the step, and the annular flange extends backwards of the nut, and sustains the same relation to it with reference to the inner end of the handle as though it were formed solid on the nut itself. The construction found in Complainant's Exhibit Defendants' Manufacture possesses each and every advantage which I have specified for the construction of the wrench described in the reissued patent. In consequence of this resemblance in construction and operation, which I have described, I am clearly and fully of the opinion that the wrench Complainant's Exhibit Defendants' Manufacture fully and completely embodies the devices and mechanisms described in the reissued letters patent, and specially referred to in the three several claims thereof, and performs the same functions by the same mechanical means and in the same way.

## *Harvey Waters' testimony (defendant's expert).*

X-Int 23. Do you find in the wrench "Complainant's Exhibit Defendants' Manufacture," a step combined with the wrench-bar, and supported by a nut at the place where the step is connected with the bar, in such manner that the step can be removed from the bar without cutting or abrasion of parts?

Ans. Not quite. I find the step is supported upon the bar by the nut immediately adjacent to the step, but not at the point where the step is connected with the bar. The step is connected with the bar by means of a mortise through the step which fits upon the bar, and the step rests against a shoulder also upon the bar, against which shoulder it is kept by the nut upon the opposite side of it.

X-Int. 24. What is the distance between the bottom or lower end of that mortise and the top of that nut?

Ans. There is no distance, if I understand the question. I understand the question to mean that the bottom of the mortise is at that side of the plate against which the nut bears, and that the top of the nut is at the side that bears against the plate, and one begins where the other leaves off.

Respectfully submitted,

WM. EDGAR SIMONDS,

*of Counsel with Appellant.*

Office Supreme Court U. S.
FILED,
JAN 21 1889
JAMES H. McKENNEY.
CLERK

# Supreme Court of the United States.

## OCTOBER TERM, 1888.

No. 164.

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THE COLLINS COMPANY

*vs.*

LORING COES & COMPANY.

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# APPELLANT'S SUPPLEMENTAL BRIEF.

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## OF SUFFICIENCY OF INVENTION.

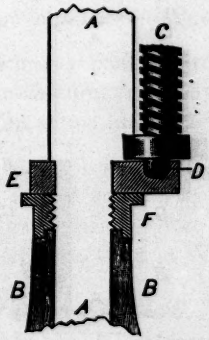
**The claims in issue are:**

"1. The step, combined with the wrench-bar and supported by the nut *F*, or its equivalent, at the place where the step is connected with the bar, in such manner that the step can be removed from the bar without cutting or abrasion of parts.

* * * * * * * *

3. The nut *F*, combined with the threaded bar, and performing the office of supporting the step, and also of rigidly fastening it to the bar, for the purpose set forth."

Wrench of Patent in Suit.




*A*, Wrench-bar.

*B*, Wooden handle.

*C*, Adjusting screw.

*D*, Trunnion of adjusting screw.

*E*, Step-plate.

*F*, Nut between step-plate and wooden handle.

DEFENDANTS' CONTENTION is that the step-plate, with its appurtenant adjusting-screw stepped therein, is found in the Coes patent of 1841; that a nut on the wrench-bar at the top of the wooden handle is found in the "Dixie Wrench," a wrench manufactured and sold by E. F. Dixie at Worcester, Mass., between 1851 and 1854; and that, therefore, complainant's combination of step-plate [with its appurtenant adjusting screw stepped therein], wrench-bar, and nut immediately under the step-plate, does not amount to patentable invention.

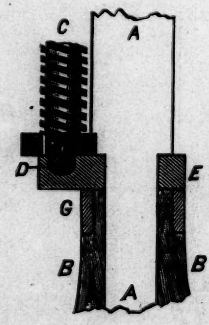
Complainant will now briefly review the course of actual events from the issue of the Coes patent of 1841 to and including the issue of the original of complainant's reissued patent in suit in 1865. The object of this review is to demonstrate —

1. *That the Coes wrench of* 1841 *had serious defects.*

2. *That complainant's combination to cure these defects is completely proved not to have been obvious and was not attained prior to complainant's invention, although there was every possible stress upon mere mechanical skill to produce complainant's combination.*

3. *That complainant's invention of* 1865 *cured those defects and dominated the market which had theretofore been dominated by the Coes wrench of* 1841.

Coes Patent,
April 16, 1841.




*A*, Wrench bar.

*B*. Wooden handle.

*C*, Adjusting screw.

*D*, Trunnion of adjusting screw.

*E*, Step-plate.

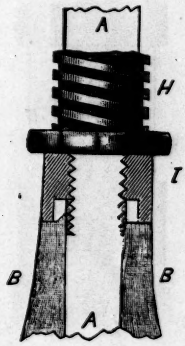
*G*, Ferrule on handle.

***Dixie Wrench.*** The next thing which occurs in order of time is the manufacture and sale of the "Dixie Wrench" by E. F. Dixie, of Worcester, Mass., from 1851 to 1854.

Dixie Wrench,
1851–1854.

*A*, Wrench-bar.

*B*, Wooden handle.




*H*, Adjusting screw encircling wrench-bar.

*I*, Nut at top of wooden handle.

MR. JUSTICE GRAY finds [record page 152] that "large numbers of the Hewitt or Dixie wrench had been made and sold, in which there was no separable screw rod, and the screw revolved on the main bar."

*Will the court from this forward please keep in mind:—*

1. The defendant from 1841 to 1865 manufactured the Coes wrench of 1841 in large numbers in Worcester, Mass.

2. The Dixie wrench was manufactured in large numbers by a competing wrench manufacturer from 1851 to 1854 in Worcester, Mass., bringing home an actual knowledge thereof to defendants with peculiar force.

3. George C. Taft, one of defendants' witnesses to the Dixie wrench, and who took two patents before 1865 to cure the defects of the Coes 1841 wrench, also lived in Worcester, Mass.

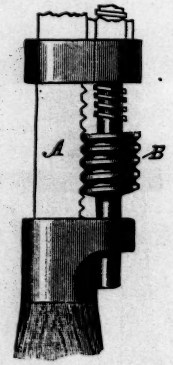
***Geo. C. Taft's Patent of 1858.*** George C. Taft, a witness for defendants, as to the Dixie wrench, [page 27 of record]

took a patent for a wrench May 25, 1858, No. 20,379 [Complainant's Exhibit Taft Patent—record page 91.]

TAFT'S PATENT.
May 25, 1858.

*A*, Wrench bar.

*B*, Rosette on adjusting screw.




The rosette is screw-threaded and takes into corresponding threads in the wrench-bar.

*Excerpt from the Patent* [record page 92]:—

"The great advantage of my present wrench * is that the rosette and screw are combined in one piece, operate in the rack, and are arranged between the ferrule projection and the extension of the movable jaw while the milled screw or rosette in their arrangement cause the strain on the movable jaw to be borne by the shank itself and not by any projection riveted thereto, and *the handle, by not being subjected to such strain, is not liable to be forced off the shank.*"

It clearly appears that George C. Taft, a prolific wrench inventor, [he has four wrench patents in this record], although he knew all about Coes wrench of 1841 and the Dixie wrench of 1851–4, was not able even *through his inventive skill* to arrive at the simple invention made by complainant's inventors, but, in attempting to reach the same result, invented a perfectly worthless thing.

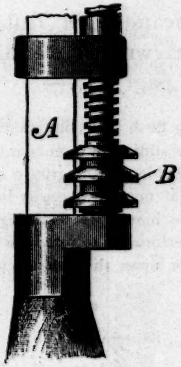
***George C. Taft's Patent of 1863.*** This same George C. Taft took another patent on wrenches No. 40,590, dated November 10, 1863, (record page 82) the whole object of which was to

transfer the strains coming from the movable jaw to the wrench-bar without the same having to pass through the step-plate and the wooden handle.

Taft's Patent
Nov. 10, 1863.

*A*. Wrench-bar.

*B*. Rosettes.




The rosettes are plural in number and bear on notches in the wrench bar.

(1.) George C. Taft, in the procurement of this patent of 1863, under which these defendants attempt to justify their infringement, offered an affidavit (record page 100) as follows:

"We the undersigned, practical mechanics, hereby certify that we have used the 'Coes Wrench,' and have been familiar with it for twenty years, more or less, and in no instance have we ever seen the 'Coes wrench' so constructed, by having one groove in the main bar, so as to receive and retain the pressure of the jaw in said groove when in use.

The groove was of slight depth. The face of the ferrule being flush with the lower end of the groove in the bar caused the end or face of the rosette to bear with full force upon the face of the ferrule when the wrench was in use and the pressure thus thrown against the ferrule was liable to crowd the ferrule back and crush the wood handle, thereby causing the bearing of the rosette to become disconnected from the ferrule and so far deranging the working parts of the wrench that it could not be used except at the expense of a new handle. This feature in the 'Coes wrench' was a great defect and where it usually failed first.

* * * * *

WORCESTER, MASS., September, 1862.

CLARENDON WHEELOCK, Inventor.
WM. T. MENIFIELD, Machinist.
ALONZO WHITCOMB, Machinist.
TOWNE & HARRINGTON, Machinists.
T. F. TAFT, Machinist.

CHAS. B. LONG, Machinist.
A. P. BROWN, Machinist.
GEORGE F. RICE, Machinist.
J. C. STODDARD, Machinist and Inventor.
JOHN GOULDING, Inventor.
O. P. RICHARDSON, Machinist.
[Jurat.]

(2). In the same application said Taft submitted another affidavit concerning the Coes wrench of 1841, wherein language is used as follows: (Record page 103)—

"The face of the ferrule being flush with the groove in the bar, consequently all the resistance or strain which the sliding jaw encountered was conveyed to and received by the ferrule, the rear shoulder in the groove affording very trifling resistance when we consider the freedom that must necessarily be given to the parts to enable them to operate with facility, the inevitable tendency and the result from the labor these wrenches are required to perform, is to force the ferrule back upon and crush the wood handle, and cause the pivot upon the rosette, to become disengaged from the ferrule.

* * * * *

WORCESTER, MASS., September, 1863.

JOHN GOULDING, Inventor and Machinist.
CLARENDON WHEELOCK, Machinist.
T. F. TAFT, Machinist.
J. WALLACE WOODWARD, Machinist.
A. L. DOANE, Machinist.
[Jurat.]

(3). Loring Coes, one of these present defendants, bought the said Taft patent of 1863, and in 1869 reissued the same, and he signed a specification, in procuring that reissue, [Complainant's Exhibit Taft's 1869 Reissue Patent—record page 108,] which contains the following language:

"The nature of the said Taft's invention relates to a mode of constructing the Coes wrench, patented April 16, 1841, in such manner that the handle shall be relieved from the back thrust or strain of the rosette screw, when the wrench is used. In my said wrench the rosette presses against the ferrule, and the ferrule in turn against the front end of the handle whereby the handle was often split and broken."

(4). Joshua S. Wheeler, a witness in defendant's behalf, and speaking of a Coes wrench of 1841, said [×-Int. 10—record page 24]:

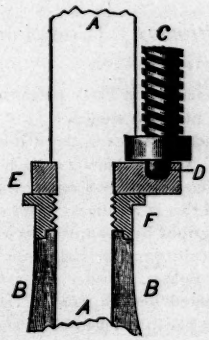
"I have used that same kind of a wrench when it would bear back so as to split the wood handle."

(5). Said George C. Taft, as a witness for defendants, in this case, spoke of a subsequent thing and said that it [Int. 10—record page 28]:

"Prevents forcing the ferrule into the wood as was the case in the old Coes wrench."

***Complainant's Patent of 1865.*** The next thing in order of time proper to be considered is the original of the reissued patent in suit, the patent to Jordan & Smith, No. 50,364, dated October 10, 1865, (record page 75.)

Complainant's Original Patent of 1865.




*A*, Wrench bar.

*B*, Wooden handle.

*C*, Adjusting screw.

*D*, Trunnion of adjusting screw.

*E*, Step-plate.

*F*, Nut between step-plate and wooden handle.

*Extract from complainants' original specification (record page 76):*

"By this arrangement the wrench is made far stronger than it would otherwise be and therefore more durable. In the ordinary wrench the strain comes upon the wooden handle, which is hardly ever scured sufficiently firm to withstand the great strains to which the several parts of the wrench are oftentimes subjected. In our wrench the entire strain falls upon the nut and this is secured on the bar of the wrench tightly and firmly against the ferrule and step, against which latter bears a nut which operates the sliding jaw of the wrench. The casual displacement of this nut *F* is not possible for it is firm enough to withstand any strain that the wear is capable of subjecting it to."

*Harvey Water's Testimony.* [Defendant's expert, record page 51.]

X-Int. 38. Does the nut under the step in the wrench described in complainants' reissue perform the office of relieving the handle from end thrust well and thoroughly? Ans. Yes.

After this straightforward statement of Mr. Waters, defendants' expert witness, there can be no doubt of the perfect efficacy of complainant's invention in remedying the serious defects of the Coes patent of 1841. On the other hand George C. Taft's attempts at remedying these defects, illustrated in his two patents of 1858 and 1863, were entire failures. The testimony next quoted refers only to Taft's patent of 1863 but his patent of 1858 had not only the defects of the patent of 1863 but others in addition to those, and this is a matter of course.

*James Shepard's testimony.* [Complainant's expert, record page 65.]

Int. 20. Does the wrench described in Taft's patent of 1863 possess the mechanical characteristics of complainant's patented wrench?

Ans. It does not. *First*, because the end thrust is received near the end of the peripheries of the rosettes on the screw, whereby a much greater friction is caused than there is where the end-thrust comes upon the screw or rosette at a point nearer its axis, as in complainant's wrench, and this at all times, under all conditions. *Second*, in the Taft wrench when an object is griped between its jaws with a light pressure the friction is so great that it would be difficult to revolve the screw and rosette with the fingers so as to make the jaws pinch tighter. Under the same conditions the screw and rosette of Complainant's patented wrench can be easily revolved by the fingers. *Third*, The slots in the wrench bar in order to be of service, must be made of such a depth as to materially weaken the bar at a vital point. *Fourth*, as the rosettes of the screw cannot be slipped end-wise directly into place, but must be moved a little distance at right angles with its axis, an undesirable looseness either in the fitting of the screw or the sliding jaw or both, is necessitated, in order to get the parts into place. This is not so in complainant's patented wrench, because the screw can be slipped end-wise into place without any movement whatever transversely to its axis. *Fifth*, the end-thrust of the screw in the Taft patented wrench is all brought to bear at a point quite remote from its axis, so that under great pressure the tendency to throw the rosette out of the slot will be so great as to be liable to bend the screw. This danger is increased by locating the bearing surfaces of the rosette further away from the lower end of the screw, so that the greater number of rosettes that are employed, the greater the danger of bending the screw. In the complainant's patented wrench there is no such tendency to bend the screw, because the end-thrust is received by the end of the screw and at a point on all sides of its axis. *Sixth*, the duplication of the rosettes necessarily occupies a much longer space on the screw than the single rosette, as in complainant's patented wrench, whereby materially reducing the bending capacity of the jaws or else necessitating a longer wrench-bar or a shorter handle.

*Luke Chapman's testimony.* [Record page 18]:

Int. 1. What is your name, age, residence and occupation?

Ans. My name is Luke Chapman; my age, 40 years; my residence, Collinsville, Conn.; and my occupation, I am master-mechanic for the Collins Company, and have held that position for the last sixteen years.

Int. 2. State whether the Collins Company have made and sold wrenches like those described and claimed in complainant's reissue patent No. 5,294, and if they have, to what extent.

Ans. They have made and sold wrenches under that patent, which they own. About 400,000 wrenches have been made and sold by them, between November, 1866, and the present date.

[Date of this testimony November 29, 1878.]

Int. 3. State, if you know, what wrench, if any, prevailed in the market prior to the introduction to the market of this Jordan & Smith wrench; by which, I mean, a wrench like that described in complainant's reissued patent No. 5,294.

A. A wrench manufactured by the Coes Company of Worcester, Massachusetts, called Coes Wrench, like the one I now hold in my hand, which I now offer in evidence.

[The said wrench is put in evidence, and marked "Complainant's Exhibit Coes' Old Wrench, Nov. 29, 1878. William H. Myer, Special Examiner."]

Int. 4. State if you know what style of wrench, if any, has prevailed in the market since the introduction to the market of what I have styled the Jordan & Smith wrench.

Ans. The wrench like Complainant's Exhibit Defendants' Manufacture, which exhibit I now hold in my hand.

This testimony is not contradicted.

## RECAPITULATION.

It is thoroughly proved —

1. THE COES 1841 WRENCH HAD SERIOUS DEFECTS.

Defendant Loring Coes expressly states the principal of these defects in the specification signed by him when he reissued Taft's 1863 patent [record pages 108, 109.]

2. THE DEFECTS OF THE COES 1841 WRENCH WERE THOROUGHLY CURED BY COMPLAINANT'S PATENTED INVENTION.

Defendents expert Hervey Waters expressly so states in answer to cross int. 38 [record page 51.]

3. BEFORE COMPLAINANT'S PATENT ISSUED IN 1865, THE

COES WRENCH OF 1841 DOMINATED THE MARKET. AFTER THAT, COMPLAINANT'S PATENTED WRENCH DOMINATED THE MARKET.

*L. Chapman's testimony.* [Ints. 1-4, record page 18.]

4. DEFENDANTS MADE AND SOLD THE COES WRENCH IN VAST NUMBERS, AT WORCESTER, MASS., FROM 1841 TO 1865. E. F. DIXIE, A COMPETING WRENCH MANUFACTURER MADE AND SOLD THE DIXIE WRENCH IN LARGE NUMBERS FROM 1851 TO 1854 AT WORCESTER, MASS. DEFENDANTS KNEW WELL OF BOTH WRENCHES: THE DEFENDANTS KNEW WELL THE DEFECTS OF THE COES 1841 WRENCH. YET, EVEN THOUGH DEFENDANT LORING COES, IS A NOTABLE INVENTOR, THE COMBINATION OF THE STEP-PLATE WITH A NUT IMMEDIATELY UNDER IT NEVER OCCURRED TO DEFENDANTS. IT IS NOT POSSIBLE TO PRODUCE MORE CONCLUSIVE EVIDENCE OF THE NON-OBVIOUS CHARACTER OF AN IMPROVEMENT THAN IS THUS FURNISHED AS TO COMPLAINANT'S PATENTED IMPROVEMENT.

5. GEORGE C. TAFT, OF WORCESTER, MASS., A PROLIFIC WRENCH INVENTOR, KNEW WELL OF THE COES 1841 WRENCH, OF ITS DEFECTS, AND ALSO OF THE DIXIE WRENCH. YET IT NEVER OCCURRED TO HIM TO PUT A NUT IMMEDIATELY UNDER THE STEP-PLATE BUT IN ATTEMPTING TO ATTAIN THE SAME END, HE TOOK OUT HIS TWO USELESS PATENTS OF 1858 AND 1863. STRONGER PROOF OF THE NON-OBVIOUS CHARACTER OF COMPLAINANT'S PATENTED IMPROVEMENT IT IS NOT POSSIBLE TO DEVISE.

Now apply to this case the following correct principle:

"It is further argued, * * *, that the combination set forth 'in the * claim is a mere aggregation of old devices already 'well known, and therefore it is not patentable. This argument 'would be sound if the combination claimed * * was an 'obvious one for attaining the advantages proposed—one which 'would occur to any mechanic skilled in the art. But it is plain 'from the evidence and from the very fact that it was not sooner 'adopted and used, that it did not for years occur in this light

'to even the most skilled persons. It may have been under their 'very eyes; they may almost be said to have stumbled over it, 'but they certainly failed to see it, to estimate its value and to 'bring it into notice."

*Webster Loom Co.* v. *Higgins, et al.* 105 U. S. 580, Supreme Court, 1882.

That complainant's patented improvement embodies patentable invention seems to be thoroughly established.

WM. EDGAR SIMONDS,

*Of counsel with appellant.*

# Supreme Court of the United States.

OCTOBER TERM, 1888.

No. 164.

## THE COLLINS COMPANY,

APPELLANT,

*v.*

## LORING COES AND MELVIN O. WHITTIER.

*APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE DISTRICT OF MASSACHUSETTS.*

# BRIEF FOR THE APPELLEES.

GEORGE L. ROBERTS,
*of Counsel for the Appellees.*

BOSTON:
ALFRED MUDGE & SON, LAW PRINTERS, 24 FRANKLIN STREET.
1888.

# Supreme Court of the United States.

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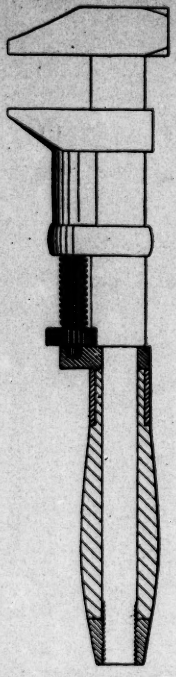
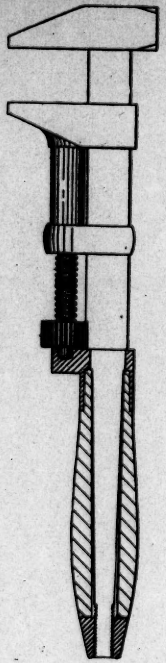
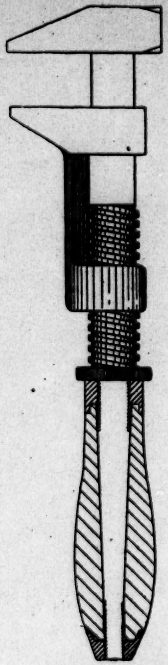


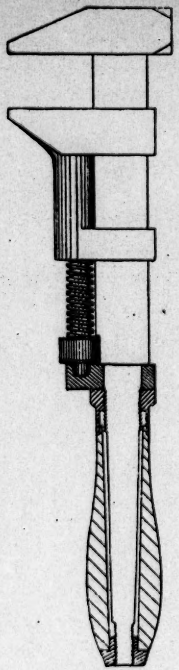
COES WRENCH PATENTED APRIL 16, 1841.



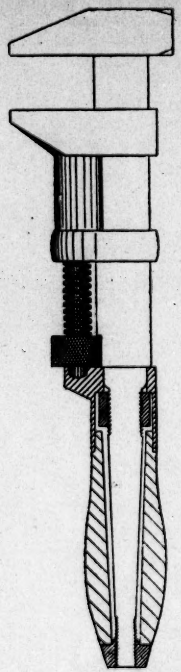
COES WRENCH ORIGINAL MANUFACTURE, BEFORE AND SINCE 1850.



DIXIE WRENCH MANUFACTURED 1851-1854.



COMPLAINANT'S PATENTED WRENCH.



DEFENDANTS' MANUFACTURE COMPLAINED OF.

THE COLLINS COMPANY, *APPELLANT*,

*v.*

LORING COES AND MELVIN O. WHITTIER.

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# BRIEF FOR THE APPELLEES.

[DEFENDANTS IN THE COURT BELOW.]

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## STATEMENT OF THE CASE.

This is an action brought on a bill in equity against the defendants (the appellees herein) for alleged infringement upon the patent, REISSUE No. 5294, granted February 25, 1873, to the Collins Company (the appellant herein) as the assignee of Lucius Jordan and Leander E. Smith for Improvement in Wrenches.

The patent in suit is a second reissue of an original patent granted more than seven years and four months previously, to wit, No. 50364, dated October 10, 1865.

Exhibit Complainant's Original Patent, pp. 75–77 [*Tr. Rec.*].
Exhibit Complainant's Reissued Patent, pp. 78–80 [*Tr. Rec.*].

Before proceeding to discuss the merits of the cause, it will be well to state briefly its history. The original bill of complaint was filed June 5, 1875, and the pleadings were completed October 22, 1875. Afterwards, for the purpose of eliminating from the controversy all other patents except that now in suit, an amended bill of complaint and a correspondingly amended answer were filed April 16, 1878.

*Transcript of Record*, pp 1–8.

Evidence was thereafter taken, and the cause was brought to hearing before JUDGE LOWELL, who, on July 24, 1880, rendered an opinion deciding that the first claim of complainant's reissue was valid and had been infringed; that the second claim was void for want of

novelty; and that the third claim had not been infringed by the defendants.

Opinion of the Court (July 24, 1880), pp. 149–151 [*Tr. Rec.*].

On October 6, 1880, the complainant filed in court a certified copy of what purported to be a disclaimer filed in the Patent Office, August 9, 1880, for the purpose of eliminating from the patent in suit the second claim, which had been held by the court to be void for want of novelty.

Certified copy of Disclaimer, pp. 10, 11 [*Tr. Rec.*].

Thereupon an interlocutory decree was entered, affirming the validity of the patent as to the first and third claims, and referring the cause to a master (pp. 11, 12 [*Tr. Rec.*]). But on December 7, 1880, the defendants filed a petition that the decree be vacated and that leave be granted to amend the answer and to take further evidence which had been newly discovered (pp. 12, 13 [*Tr. Rec.*]). This petition was refused by the court; but JUDGE LOWELL, in delivering his opinion, referred to another action by the complainants then pending against different defendants, wherein the new evidence could be investigated, and stated that the understanding was that final decree in the present suit might be delayed until the other cause had been brought to hearing.

Opinion of the Court (May 21, 1881), pp. 147–149 [*Tr. Rec.*].

That other cause so referred to was the suit of *The Collins Company* v. *John H. Coes et al.*, which was afterwards heard before Mr. JUSTICE GRAY and JUDGE NELSON, and on July 30, 1884, was decided adversely to the complainant, on the ground that the patent in suit was void for want of novelty in the invention disclosed by it.

Opinion of the Court (July 30, 1884), pp. 151, 152 [*Tr. Rec.*].

Soon afterwards, the defendants in the present cause filed a petition for rehearing, setting forth that the same issues of novelty and infringement were involved as in the other suit, and that a similar decree ought to be entered therein.

Motion for rehearing and to vacate decree (filed August 21, 1884), pp. 13, 14 [*Tr. Rec.*].

This petition was heard before Mr. JUSTICE GRAY and JUDGE NELSON, September 3, 1884; and the court accordingly vacated the interlocutory decree and entered a final decree dismissing the complainant's bill.

Final decree (September 3, 1884), p. 14 [*Tr. Rec.*].

The complainant then appealed the cause to this court.

The defendants in the case at bar have four separate defences to make, namely:

*First.* The patent in suit does not disclose a patentable invention in view of the prior state of the art.

*Second.* The patent is a reissue which describes and claims a different invention from that for which the original patent was granted.

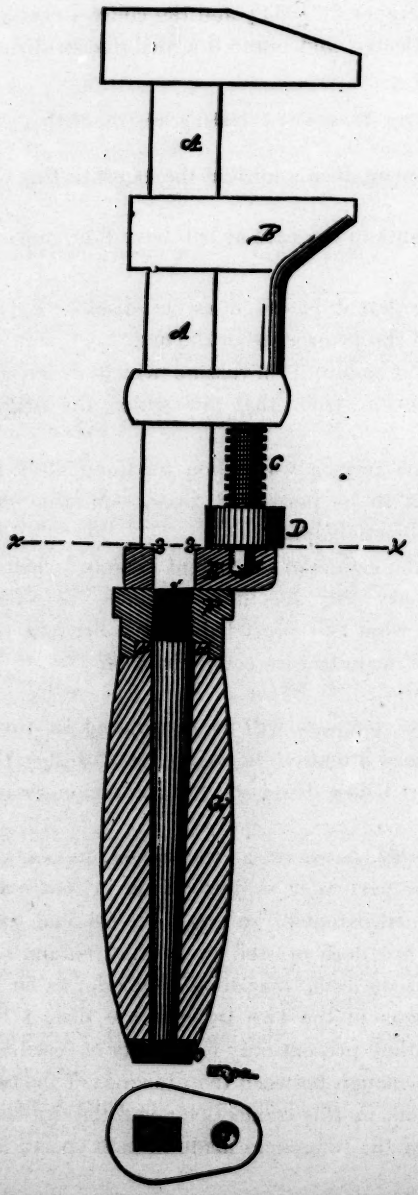
*Third.* This reissue was taken too long after the date of the original patent to be permitted upon equitable grounds, even if otherwise unobjectionable.

*Fourth.* The claims of the patent in suit, when construed so as to embrace only the specific differences between the structure described and what had preceded in the art, are not infringed by the defendants' manufacture complained of.

Each of these defences will be considered in turn; but the first demands especial attention because it constitutes the ground upon which the court below dismissed the complainant's bill.

It is necessary, however, at the outset, to obtain a clear understanding of the particular subject matter in controversy, and to this end, the reissued patent in suit and the original patent upon which it is founded are here printed in parallel columns, with the corresponding parts in each placed side by side, as far as possible; but the specifications of the two patents are drawn in such different language that they present only few points of resemblance. There is not difference enough between the drawings of the two patents to call for any comment in this connection; and the drawing of the reissue will answer for the references made in both specifications.

Fig. 1.



## ORIGINAL PATENT NO. 50364.

DATED OCTOBER 10 1865.

*To all whom it may concern:*

Be it known that we, Lucius Jordan and Leander E. Smith of Southington, in the county of Hartford and State of Connecticut, have invented new and useful Improvements in Wrenches, and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which —

Figure 1 is a side elevation of a wrench, with a part in section to show the application of our invention.

Figure 2 is a top or face view of the ferrule or step we use as a bearing for the nut, which operates the sliding jaw of the wrench.

## REISSUED PATENT NO. 5294.

DATED FEBRUARY 25, 1873.

*To all whom it may concern:*

Be it known that Lucius Jordan and Leander E. Smith of Southington, in the county of Hartford and State of Connecticut, invented a new and useful Improvement in Wrenches of which the following is a specification.

*Nature and Objects of the Invention.*

The object of this invention is the prevention of end thrust or back pressure on the wooden handle of wrenches, which has heretofore availed to quickly destroy such wooden handles, and, in destroying the handles, has left the working parts of the wrench which depended upon the handles for support without such support, so as to injure and effectually impair their working qualities and efficiency; and is accomplished by so connecting the step which forms a bearing for the lower end of the screw rod with the bar which forms the main part of the wrench that the back pressure put upon the step by the screw-rod will be directly transmitted to the wrench-bar at the place of connection therewith, and will not be transmitted to and mainly put upon the wooden handle.

*Description of the Accompanying Drawing.*

Figure 1 is a side view of the whole wrench, the part below the dotted line x x being in section.

Fig. 2 is a top or plan view of the step which forms a bearing for the lower end of the screw-rod.

ORIGINAL PATENT NO. 50364.

Figure 3 is an inverted plan view of the nut, which bears against the ferrule, and which is recessed to receive the handle.

Similar letters of reference indicate like parts.

Our invention consists in the employment or use of a ferrule or step, into which is fitted to work the end or journal of the screw-rod, which carries the nut by which the sliding jaw of the wrench is operated, and against which the said nut bears; and it further consists in the use of a nut, which is screwed up on a thread cut on the bar of the wrench, so that it will bear against the said ferrule or step and keep it rigidly in place, by which arrangement a strong and durable wrench is obtained, as will be hereinafter explained.

To enable others to understand our invention, we will proceed to describe it.

*A* represents the bar of the wrench, one part of which is made of the usual shape, and has the sliding jaw *B* attached in the ordinary way; the other end is made of a form capable of receiving upon it the wooden handle *G* of the wrench.

*C* is the screw rod, and *D* the nut for operating the sliding jaw *B* of the wrench.

*E* is a ferrule or step into which rests one end, or, rather, the journal of the screw-rod *C*, as shown clearly in Fig. 1.

The form of the ferrule or step *E* is shown clearly in Fig. 2, the hole *a* being for the admission through it of the bar *A*, which carries the handle of the wrench, and the recess *a'* for a bearing or journal box for the screw rod *C*. This ferrule or step, when in a proper position on the bar, rests against a shoulder, *b*, upon the bar *A*, as will be understood by reference to Fig. 1.

REISSUED PATENT NO. 5294.

*General Description.*

The letter *A* indicates the wrench-bar, flatsided down to the under side of the step *E*, and from thence downward cylindrical, or of other convenient shape, so as to take upon it the wooden handle *G*. *B* is the movable jaw.

The letter *C* indicates the screw-rod, and *D* the rosette by which it is turned.

The letter *E* indicates the step, in which is the bearing *a'* for the lower end of the screw-rod, and also the hole *a* to admit the bar *A*, and fitting up against the shoulder *b*.

ORIGINAL PATENT NO. 50364.

On the bar *A*, just below the place where the ferrule or step *E* encircles it, there is cut a screw thread *c*, on which is fitted to screw a nut *F*, which is to be screwed up firmly against the ferrule or step *E* before the wooden handle *G* is put upon the wrench.

A recess *d* is made in the lower face of this nut *F* to receive the handle *G* of the wrench, said handle being secured in place by a nut *o* at the lower end, in the usual way.

By this arrangement the wrench is made far stronger than it would otherwise be, and therefore more durable.

In the ordinary wrench the strain comes upon the wooden handle, which is hardly ever secured sufficiently firm to withstand the great strains to which the several parts of the wrench are oftentimes subjected. In our wrench the entire strain falls upon the nut, and this is secured on the bar of the wrench tightly and firmly against the ferrule or step, against which latter bears the nut that operates the sliding jaw of the wrench. A casual displacement of this nut *F* is not possible, and it is

REISSUED PATENT NO. 5294.

On the bar *A*, just below the step *E*, is cut the screw-thread *i*, on which screws the nut *F*, forming a projection from the wrench-bar on which rests the step *E*, and thus transmits the back pressure put upon the step directly to the wrench-bar at the place of connection therewith, and thus relieves the wooden handle therefrom, the connection of the step with the bar being made in such manner that the step may be removed or taken off the bar without any cutting or abrasion of parts.

The nut not only supports the step, but can be made to rigidly fasten the step to the bar by screwing it firmly up against the step so as to gripe it between itself and the shoulder *b*, thus giving the nut, so to speak, a double office, viz., that of supporting the step, and, also, that of fastening it rigidly to the bar.

The nut is interiorly recessed at *d* for the purpose of forming a ferrule for the top of the wooden handle.

Heretofore the part designed to perform the office of the step *E* has rested directly on the wooden handle, which was secured upon the bar by a light nut, *o*, at the lower extremity of the bar, which is the present method of fastening on the handle.

ORIGINAL PATENT NO. 50364.

firm enough to withstand any strain that the wear is capable of subjecting it to.

The wrench operates easily, and it is not likely to get out of order.

What we claim as new, and desire to secure by Letters Patent, is,

1. The step *E*, when held in place upon the bar substantially as and for the purpose herein set forth.

REISSUED PATENT NO. 5294.

It is known that, previous to this invention, steps have been forged or otherwise produced solid with the bar, and this became as much a part of it as the solid head at extremity of bar; and also by riveting to reach similar result; but such method, by making a permanent fastening, renders it impossible, or a work of great difficulty, to displace the step in order to remove the sliding jaw for repairs. It will be observed that, while JORDAN and SMITH's method of fastening is as firm as the permanent fastenings last above referred to, their step can readily be removed and again put in place at pleasure.

It is believed that SMITH and JORDAN were the first to secure easy divisibility of step and bar, together with a fixed or stationary step when in position, and at the same time supporting the step, when in position immediately by the bar, and not mediately through the handle, as the manner had been.

As a matter of definition, the JORDAN and SMITH method of fastening and supporting the step when in position is denominated "removable" hereinafter in contradistinction from a connection and support made by forging or otherwise producing the step in one solid piece with the bar, and therefore a part of it; or by riveting it thereto, or the like.

*Claims.*

1. The step, combined with the wrench-bar and supported by the nut *F*, or its equivalent, at the place where the step is connected with the bar, in such manner that the step can be removed from the bar without cutting or abrasion of parts.

| ORIGINAL PATENT NO. 50364. | REISSUED PATENT NO. 5291. |
|---|---|
| 2. The nut *F*, fitted to screw upon the bar *A*, so that one of its sides or faces will rest against the step *E*, and the other recessed to receive the upper end of the handle, substantially as described. | 2. The nut *F*, combined with the wrench-bar, and interiorly recessed at *d*, for the purpose set forth. |
| 3. The combination of the step *E*, screw-rod *C*, nut *D*, and nut *F*, substantially as herein shown and described. | 3. The nut *F*, combined with the threaded bar, and performing the office of supporting the step, and also of rigidly fastening it to the bar, for the purpose set forth. |

## I. The patent in suit is void for want of patentable invention.

The structure described and shown in the complainant's reissue, as well as in the original patent, consists of the following parts: (1) a bar intended to serve the purpose of a mechanical lever and known as the wrench-bar; (2) a fixed jaw forged upon the upper end of the wrench-bar; (3) a movable jaw which slides upon the wrench-bar and is supported in such manner that its working face is kept always parallel to the working face of the fixed jaw; (4) a screw-rod parallel with the wrench-bar and fitted to turn in a correspondingly threaded hole through the lower part of the movable jaw for the purpose of adjusting the position of such movable jaw; (5) a rosette upon the lower end of the adjusting screw-rod, by which to turn the latter; (6) a step-plate surrounding the wrench-bar and serving as a support for the lower end of the adjusting screw-rod; (7) a nut screwed upon the wrench-bar immediately beneath the step-plate and provided with a recess on its under side to receive the upper end of the handle; (8) a wooden handle surrounding the remainder of the wrench-bar and secured by a nut at its extreme lower end.

*This entire structure, with the sole exception of the nut screwed upon the wrench-bar just above the handle, was patented to the defendant, Loring Coes, April* 16, 1841, *and has ever since been known in the market as the Coes wrench.*

In the manufacture of the Coes wrench, however, the ferrule which embraces the upper end of the handle has always been attached to and made integral with the step-plate.

Exhibit Coes Original Patent, pp. 80-82 [*Tr. Rec.*].
Exhibit Coes 1849 Reissue, pp. 83-85 [*Tr. Rec.*].
*See also* EXHIBIT COES WRENCH, ORIGINAL MANUFACTURE (an original specimen made before 1850).
Joshua S. Wheeler, int. 2, pp. 23, 24, [*Tr. Rec.*].

[For further presentation of the evidence upon this point, see pp. 28–31, *infra.*]

*The single feature which distinguishes the wrench described and shown in the complainant's patent in suit from the wrench patented to the defendant, Loring Coes, in* 1841, *namely, the recessed nut screwed upon the wrench-bar just above the wooden handle, is an old device used in other wrenches for the same purpose.*

During the years 1851 to 1854 there were manufactured in large numbers by one E. F. Dixie, now deceased, at Worcester, Mass., wrenches which differed from the Coes wrench chiefly in having the screw for adjusting the position of the lower jaw, upon a sleeve which surrounded the wrench-bar, instead of upon a solid rod at one side of the wrench-bar.

But the adjusting screw sleeve of this Dixie wrench, like the adjusting screw rod of the Coes wrench, had at its lower end a rosette for the thumb of the operator to bear against in turning it, and was supported there on a step formed by the upper end of pre cisely such a nut, screwed upon the wrench-bar just above the wooden handle, as is contained in the wrench described and shown in the complainant's patent in suit.

*See* EXHIBIT DIXIE WRENCH (an original specimen made in 1853).
George W. Wakefield, ints. 2–8, pp. 19, 20 [*Tr. Rec.*].
Edmund Crosby, ints. 2–15, pp. 21–23 [*Tr. Rec.*].
Henry S. Crosby, ints. 2–10, pp. 26, 27 [*Tr. Rec.*].
George C. Taft, ints. 2–5, pp. 27, 28 [*Tr. Rec.*].

[For further presentation of the evidence upon this point, see pp. 31–33, *infra.*]

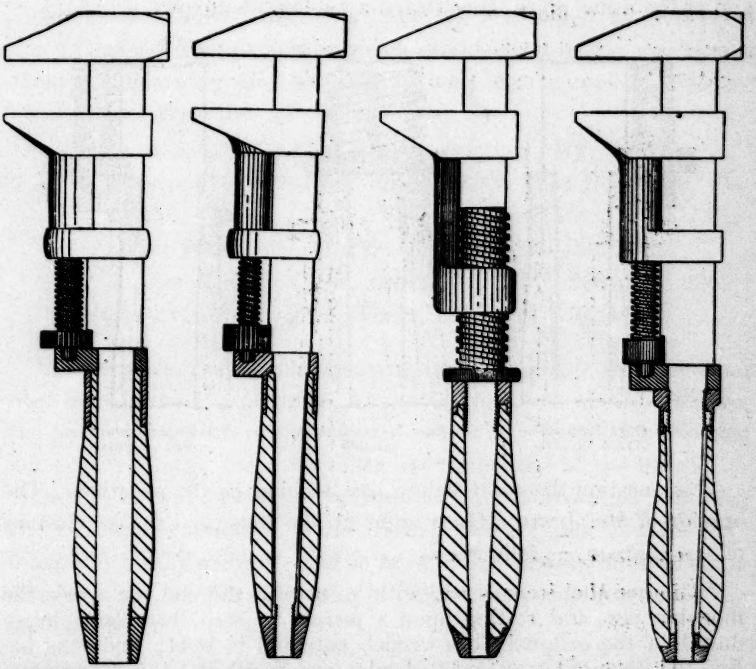
This nut in the Dixie wrench had three parts, each performing a distinct office.

*First.* Its upper end constituted a step on which the adjusting screw for the movable jaw was supported and turned.

*Second.* Its interior surface was threaded and screwed upon the wrench bar, whereby the wooden handle of the wrench was relieved from the strain due to the back thrust of the movable jaw.

*Third.* Its lower end was recessed to receive the upper end of the wooden handle and to serve as a ferrule for it.

*The only difference between the Dixie wrench and the complainant's wrench is that the latter has above the nut here under consideration a separate step-plate and the adjusting screw-rod of the Coes wrench.*



COES WRENCH PATENTED APRIL 16, 1841.

COES WRENCH ORIGINAL MANUFACTURE, BEFORE AND SINCE 1850.

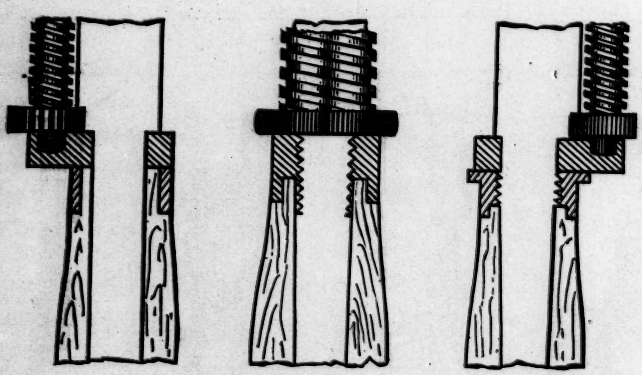
DIXIE WRENCH MANUFACTURED 1851-1854.

COMPLAINANT'S PATENTED WRENCH.

But surely the Dixie wrench would not become a substantially different structure if a metal washer was interposed between the upper end of the nut and the lower end of the adjusting screw sleeve; nor would the complainant's wrench become a substantially different structure if the step-plate was made solid with the nut.

In either case the functions of the nut would be precisely the same, namely, (1) to support the adjusting screw; (2) to transfer the strain of the back thrust directly to the wrench-bar; and (3) to furnish a socket for the upper end of the handle.

The prime question for judicial determination, therefore, is whether the application of this nut used upon the Dixie wrench to the older Coes wrench, to serve the same purpose in the same way and at the same place, constituted a patentable novelty.



Coes Patent, April 16, 1841. Dixie Manufacture, 1851-1864. Complainant's Patent in Suit.

This question the court below has decided in the negative. The opinion of Mr. Justice Gray sums up the facts, and the conclusions of law thereon, as follows: —

"The parallel screw-rod, with a rosette thereon, to work the movable jaw, and resting upon a ferrule or stop, had been introduced in the original Coes wrench patented in 1841; and long before the issue of the patent to Jordan and Smith in 1865, large numbers of the Hewitt or Dixie wrench had been made and sold, in which there was no separate screw-rod, and the screw that worked the movable jaw revolved on the main bar, but that screw rested on a

ferrule or step which was secured sometimes by driving it on under heavy pressure, and sometimes by a nut screwed under it on the bar.

"The application to the bar of the Coes wrench, for the purpose of securing and supporting the step and resisting the strain, of a nut already in use for the same purpose on the Hewitt or Dixie wrench, lacks the novelty of invention requisite to support a patent within the decisions of the Supreme Court at the last term, which have in effect overruled the earlier decision of this court in the suit of this complainant against Loring Coes and others, reported in 5 Banning and Arden, 548. *Pennsylvania Railroad* v. *Locomotive Engine Safety Truck Co.*, 110 U. S. 490; *Bussey* v. *Excelsior Manuf. Co.*, 110 U. S. 131; *Double Pointed Tack Co.* v. *Two Rivers Manuf. Co.*, 109 U. S. 117; *Phillips* v. *Detroit*, 111 U. S. 604.

"The complainant's patent being void for want of novelty, it becomes unnecessary to consider the other defences."

Opinion of the Court (July 30, 1884), pp. 151, 152 [*Tr. Rec.*].

Numerous kindred decisions have been rendered by this court since those referred to in the opinion of the court below, and among them the following may be cited as most nearly applicable to the state of facts presented by the case at bar: —

*Morris* v. *McMillin*, 112 U. S. 244, 248, 249.
*Stephenson* v. *Brooklyn Railroad Co.*, 114 U. S. 149, 154, 156, 158.
*Pomace Holder Co.* v. *Ferguson*, 119 U. S. 335, 338.
*Thatcher Heating Co.* v. *Burtis*, 121 U. S. 286, 294, 295.
*Hendy* v. *Miners' Iron Works*, 127 U. S. 370, 375.

Furthermore, the complainant corporation itself, in the disclaimer filed by it in the Patent Office, August 9, 1880, has admitted that for the purpose set forth in the reissued patent here in suit the recessed nut screwed upon the wrench-bar above the top of the handle, as therein described and shown, was older than the invention of Jordan and Smith, the grantees of the original patent; and that the only thing which they could be said to have invented was the association of such a nut for the same purpose with the specific features of an old Coes wrench.

The language of that disclaimer is as follows: —

"Further, that said The Collins Company has reason to believe that through inadvertence and mistake the second clause of claim made in said

last mentioned reissued letters patent in the following words, to wit: '2. The nut F, combined with the wrench-bar and interiorly recessed at *d*, for the purpose set forth'—is too broad, including that of which said Jordan and Smith were not the first inventors.

"Said The Collins Company, therefore, hereby enters its disclaimer to 'the nut F, combined with the wrench-bar and interiorly recessed at *d*, for the purpose set forth,' except when said recessed nut and wrench-bar are in combination with the handle (G), the step or step-plate (E), the screw-rod (C), and the movable jaw (B) of the wrench substantially as is shown and described in said last mentioned reissued letters patent."

Certified Copy of Disclaimer, pp. 10, 11 [*Tr. Rec.*].

It should be noted in passing that the attempt thus made to inject into the patent a new claim for a different invention is undoubtedly inadmissible and ineffectual (*Hailes* v. *Albany Stove Co.*, 123 U. S. 582, 586, 587); but the point to which attention is here especially called is that by this disclaimer it stands confessed that Jordan and Smith were not the first inventors of "the nut F, combined with the wrench-bar, and interiorly recessed at *d*, for the purpose set forth"; that is to say, for the purpose of (1) relieving the wooden handle from back pressure; (2) permitting the step to be removed from the wrench-bar without cutting or abrasion of parts; (3) supporting the step upon which the adjusting screw rests and turns; (4) fastening the step rigidly to the bar; and (5) forming a ferrule for the top of the wooden handle; each and all of which offices are set forth in the reissued patent in suit, as the purpose for which the nut F is combined with the wrench-bar, and interiorly recessed at *d*.

And the disclaimer, when so interpreted, is strictly in accordance with the facts, because the recessed nut, screwed upon the bar of the prior Dixie wrench, just above the wooden handle, had constituted, by the shoulder which it made at its upper end, a step upon which the adjusting screw rested and turned, and consequently it served not only (1) to relieve the wooden handle from the strain of back pressure, but also (2) to permit the step to be removed from the wrench-bar without cutting or abrasion of parts; (3) to support the step, and (4) to fasten the step rigidly to the bar, as well as (5) to form by the recess at its lower end a ferrule for the top of the wooden handle.

Moreover, the attempt made by the complainant in its disclaimer to restate the subject matter of invention by adding to the combination specified in the second claim of the reissue in suit other mechanical devices not implied by the terms of that claim, — notably the adjusting screw-rod of the Coes wrench, — shows that the only novelty which could be suggested in connection with the recessed nut therein referred to, was its use in a wrench where the back pressure of the lower jaw was exerted through an adjusting screw-*rod* like that contained in the prior Coes wrench, instead of being exerted through an adjusting screw-*sleeve* as in the prior Dixie wrench. Manifestly, however, such a difference in the specific means by which the movable jaw is adjusted, and through which its back pressure is communicated to the step-supporting nut under consideration, cannot change or affect the functions of that nut.

Hence it results that the complainant's disclaimer substantially admits all the facts upon which the opinion of the court below based its conclusions of law, and justifies the judicial finding that the application to the bar of the Coes wrench, of the nut used upon the bar of the Dixie wrench, to serve the same purpose in the same way, lacks the novelty of invention requisite to support a patent.

Up to this point the discussion has proceeded as if the patent in suit contained a claim which was coextensive with whatever of novelty could be predicated of the structure described and shown, whether patentable or otherwise, in view of the prior state of the art. It now remains to consider the claims, which the patent actually contains, and to show the want of novelty in their subject-matter.

The first claim is as follows: —

"1. The step, combined with the wrench-bar and supported by the nut F or its equivalent, at the place where the step is connected with the bar, in such manner that the step can be removed from the bar without cutting or abrasion of parts."

Exhibit Complainant's Reissued Patent, p 80 [*Tr. Rec.*].

The descriptive language of the specification to which this claim corresponds is as follows: —

"On the bar A, just below the step E, is cut the screw thread *i* on which screws the nut F, forming a projection from the wrench-bar, on which rests the step E, and thus transmits the back pressure put upon the step directly to the wrench-bar at the place of connection therewith, and thus relieves the wooden handle therefrom, the connection of the step with the bar being made in such manner that the step may be removed or taken off the bar without any cutting or abrasion of parts."

Exhibit Complainant's Reissued Patent, p. 79 [*Tr. Rec.*].

It is to be observed that for all the purposes of the combination thus described and specified, the particular form of the step E, by which it is adapted to receive upon its upper surface, at one side of the wrench-bar, the lower end of the adjusting screw-rod, is wholly immaterial and constitutes no part of the subject matter of this first claim.

The purposes of the combination so claimed are explicitly stated to be (1) the immediate support of the step by the nut F; (2) the transmission of back pressure put upon the step, directly to the wrench-bar through the nut F, and (3) the removability of the step from the bar without cutting or abrasion of parts, by simply unscrewing the nut F. Nothing is here referred to which can distinguish the step mentioned from that upon which back pressure is put in any wrench of another pattern; and indeed, the concluding paragraphs of the specification wherein the removable step of the patent is contrasted with steps of prior wrenches which had been forged solid with or riveted to the bar, show that the specific adaptation of the step to the means for adjusting the position of the movable jaw is left out of account in such connection.

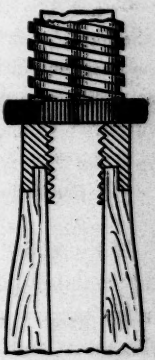
In short, the bearing *s* for the lower end of the screw-rod on the upper side of the step E is no more a part of the combination specified in the first claim of the patent in suit than is the recess *d* in the lower end of the nut F. Neither of these features contributes anything to the functions or results which are recited as the purposes of the combination so claimed.

Such being the case it will be manifest that the prior Dixie wrench embodied substantially the subject matter of this claim.

*It contained precisely the nut F of the patent in suit, screwed upon the wrench-bar in a corresponding position.*

It did not have a separate plate for a step, but *the upper portion of the nut itself constituted the step* upon which was put the back pressure exerted by the movable jaw through its adjusting screw.

Such a nut and step combined together performed all the functions, and subserved all the purposes of the combination specified in the claim here under consideration and already hereinbefore enumerated, namely: (1) the immediate support of the step by the nut; (2) the transmission of back pressure put upon the step directly to the wrench-bar through the nut; and (3) the removability of the step from the bar, without cutting or abrasion of parts, by simply unscrewing the nut.



DIXIE MANUFACTURE, 1851-1854.

All these objects are accomplished as completely when the step and nut are united in one piece of metal, as when composed of separate pieces; and therefore the first claim of the patent in suit was fully anticipated by the structure of the Dixie wrench.

The second claim of this patent is in the following language: —

"2. The nut F, combined with the wrench bar, and interiorly recessed at *d*, for the purpose set forth."

Exhibit Complainant's Reissued Patent, p. 80 [*Tr. Rec.*].

And in view of the fact that precisely the same recessed nut, combined with the wrench-bar for the very same purpose, was contained in the prior Dixie wrench, such claim is undoubtedly void for want of novelty in its subject matter.

But whether it has been eliminated from the patent by the complainant's disclaimer filed in the Patent Office August 9, 1880, depends upon the further question whether the qualifications stated therein for the purpose of converting the old claim into a new one, embracing by its terms a different invention, render the attempted

disclaimer wholly void as such, or are to be treated as mere surplusage which is ineffectual to prevent the disclaimer from taking effect absolutely.

The language of it is as follows:—

"Said The Collins Company, therefore, hereby enters its disclaimer to 'the nut F, combined with the wrench-bar and interiorly recessed at *d*, for the purpose set forth,' except when said recessed nut and wrench-bar are in combination with the handle 'G,' the step or step-plate 'E,' the screw-rod 'C,' and the movable jaw 'B,' of the wrench, substantially as is shown and described in said last mentioned reissued letters patent."

Certified copy of Disclaimer, p. 11 [*Tr. Rec.*].

If the claim when thus amended could be regarded as lawfully interpolated into the patent, it would not present any more novelty in its subject matter than it had without such amendment; because the screw-rod and movable jaw of the wrench described in the patent have no different effect from the screw-sleeve and movable jaw of the prior Dixie wrench upon the step, the nut, the bar and the handle, which constitute the remaining elements of the combination specified; but in view of the decision of this court in the case of *Hailes* v. *Albany Stove Co.* (123 U. S. 582, 587, 589), the new claim thus created can have no legal effect, and the complainant's qualified disclaimer is inoperative and ineffectual for any purpose except as an admission that the second claim of the patent is void for want of novelty.

The third claim of the patent in suit is as follows:—

"3. The nut F, combined with the threaded bar, and performing the office of supporting the step and also of rigidly fastening it to the bar, for the purpose set forth."

Exhibit Complainant's Reissued Patent, p. 80 [*Tr. Rec.*].

The descriptive portion of the specification which corresponds with this claim is as follows:—

"The nut not only supports the step, but can be made to rigidly fasten the step to the bar by screwing it firmly up against the step so as to gripe it between itself and the shoulder *b*, thus giving the nut, so to speak, a

double office, viz., that of supporting the step and also that of fastening it rigidly to the bar."

Exhibit Complainant's Reissued Patent, p. 79 [*Tr. Rec.*].

The purpose of supporting the step by the nut F screwed upon the threaded wrench-bar has already been considered in connection with the first claim. That purpose is the transmission of the back pressure put upon the step directly to the wrench-bar through the nut F, in order to relieve the wooden handle from such strain; but the purpose of fastening the step rigidly to the wrench-bar by means of the nut F must be the same, namely, the relief of the wooden handle from the strain of back pressure; because in the Coes wrench, as patented in 1841, and as manufactured thereafter from that time forward, the step-plate was rigidly fastened to the wrench-bar by being griped between a shoulder above it upon the bar, and the handle below it backed up by a nut screwed upon the lower extremity of the bar.

This construction is described in the specification of the reissue of Coes patent taken June 26, 1849, in the following language: —

"In the accompanying drawings (A) represents a quadrangular bar of metal with a permanent or hammer jaw (C) at one end, the other end being reduced in size to pass through a handle (L) secured to it by a nut (M). *Between the ferrule of the handle and the shoulder of the bar an iron plate (I) is griped by the securing of the handle on to the bar,*' etc.

Exhibit Coes 1849 Reissue, p. 84 [*Tr. Rec.*].

The handle L thus intervening between the step-plate I and the supporting nut M of this Coes wrench was in effect merely a long washer through which the nut acted to gripe the step-plate between it and the shoulder on the bar; and so far as that function is concerned the nut M of the Coes wrench was the same as the nut F of the patent in suit.

Hervey Waters, Int. 10, pp. 37, 38 [*Tr. Rec.*].

Furthermore, the only possible object of griping the step-plate between a shoulder above it on the bar and a nut screwed upon the bar below it is to hold it rigidly fixed in position; but this object is fully attained by making the step and nut of one and the same piece

of metal, as in the Dixie wrench, so that for all the purposes specified in the third claim of the patent in suit "the nut F, combined with the threaded bar" therein mentioned, was completely anticipated by the same combination in the prior Dixie wrench, and the claim itself is void for want of novelty.

**II. The reissue here in suit is not for the same invention as was the original patent.**

In the original patent there is some indication that the patentees supposed themselves to be the first inventors of the step-plate upon which the lower end of the adjusting screw-rod bears and turns; but no such claim on their behalf could be sustained in view of the fact that the patent granted to Loring Coes, April 16, 1841 (pp. 80–82, *Tr. Rec.*), described and showed the very same step-plate in a wrench of the same pattern.

Taking into account, however, the whole specification of the original patent here under consideration, including the claims thereof, it is evident that the invention intended to be described and claimed resulted from the employment of the nut F screwed upon the wrench-bar to hold the step in place and to take the strain which would otherwise fall upon the wooden handle. To this was added the subordinate feature of invention constituted by the recess in the lower end of the nut F to receive the top of the handle.

The *first claim* of the *orginal patent* therefore, when given the most liberal interpretation of which it is capable, is for the step E when held in place by the nut F screwed upon the wrench-bar for the purpose of transferring from the step directly to the bar the strain which would otherwise come upon the wooden handle.

This is substantially the invention which the court below gave the patentees credit for, and which, in view of the prior use of the same recessed nut upon the Dixie wrench for the same purpose, although not in combination with a separate step-plate, was held to be wanting in patentable novelty.

The *second claim* of the *original patent* embraced the combination involved in the first claim, with the added element of the recess in

the lower end of the nut F to receive the top of the handle. This also was anticipated by the prior structure of the Dixie wrench.

The *third claim* of the *original patent* was for a combination which consisted not only of the step and its supporting nut, but also the adjusting screw-rod and the rosette by which it was turned; but as all these features except the nut had belonged to the prior Coes wrench, and as the nut had been applied to the prior Dixie wrench, which had an adjusting screw and rosette performing the same functions as those of the Coes wrench, the combination possessed no more novelty than that specified in the other claims.

Since, therefore, this original patent did not disclose any invention which in view of the prior state of the art possessed any patentable novelty, it follows that no reissue could lawfully be taken for an invention possessing any further degree of novelty.

Nevertheless the attempt has been made by the reissue in suit to convert the subject matter of the original patent into something different by the addition of features which were not before mentioned as characteristics of the invention intended to be patented.

The specification of this reissue starts out with the evident intention of stating the invention to be broadly such connection of the step with the wrench-bar as to save the wooden handle from back pressure; but further on in the specification the statement is made that the connection of the step with the bar is made in such manner that the step may be removed or taken off the bar without any cutting or abrasion of parts; and at the close of the descriptive portion of the specification this feature of removability is insisted on as the distinctive characteristic of the structure, because previously, as is there explicitly admitted, steps had been forged solid with wrench-bars or had been riveted thereto.

In view of this admission, which must be taken as in the nature of a disclaimer, it becomes difficult to see what patentable novelty could appertain to the mere substitution of a nut for a rivet or any other permanent fastening to subserve the same purpose of transferring the strain which comes upon the step, directly to the bar.

The desirability of being able to remove the step readily in order to repair the sliding jaw is an after-thought interpolated for the purpose of characterizing the invention by a feature which was not hinted at in the original patent.

The *first claim* of the *reissue* in suit makes such removability of the step a part of the subject matter claimed, and in that respect differs from the first claim of the original patent.

The *second claim* of the *reissue* by its terms incorporates into the combination of recessed nut and wrench-bar therein mentioned all the additional features implied by the qualification "for the purpose set forth"; and thus it embraces the new matter of both the other claims, wherein the purpose for which the nut F is combined with the wrench-bar is more specifically set forth.

The *third claim* of the *reissue* requires this combination of nut F and threaded bar to perform the office, not only of supporting the step, but also of rigidly fastening it to the bar.

The purpose of thus supporting the step is the transmission of back pressure directly to the wrench-bar through the nut F in order to relieve the wooden handle from strain; but no other purpose is assigned for the office of rigidly fastening the step to the bar. If, however, the mode and means by which this fastening is accomplished are to enter into the subject matter of the claim, then the shoulder *b* upon the wrench-bar just above the step becomes an element in the combination claimed, although it was not hinted at in the original patent as constituting any substantial feature of the invention therein intended to be secured.

Manifestly, therefore, the reissue in suit was intended to cover by each of its claims things which were not embraced in the invention intended to have been secured by the original patent.

There was no statement or suggestion, either in the body of the specification or in the claims of the original patent, that the invention intended to be covered and secured thereby embraced the feature of removability of the step from the wrench-bar without

cutting or abrasion of parts, or the feature of rigidly fastening the step to the wrench-bar against a shoulder thereon; and the incorporation of these features as distinguishing characteristics of the several combinations claimed in the reissue was clearly an attempt to introduce therein new subject matter of invention.

Such an attempt is contrary to law, and has recently been considered by this court upon a contention that the doctrine laid down in the case of *Seymour* v. *Osborne* (11 Wall. 516, 544) justified a reissue for "not only what was well described before, but whatever else was suggested or substantially indicated in the specification or drawings [of the original patent] which properly belonged to the invention as actually made and perfected."

Upon this point Mr. JUSTICE BLATCHFORD, delivering the opinion of the court, remarked: —

"In what was thus said in *Seymour* v. *Osborne* there is no warrant for the view that, *ex vi termini*, what was suggested or indicated in the original specification, drawing or patent office model is to be considered as a part of the invention intended to have been covered by the original patent, unless the court can see, from a comparison of the two patents, that the invention which the original patent was intended to cover fairly embraced the things thus suggested or indicated in the original specification, drawings or patent office model, and unless the original specification indicated that those things were embraced in the invention intended to have been secured by the original patent."

*Parker & Whipple Co.* v. *Yale Clock Co.*, 123 U. S. 87, 99.

In conclusion upon the subject here under consideration, it may be said, that if the claims of the reissue in suit are to be construed as for an invention not substantially different from that of the original patent, it can be done only by rejecting as mere descriptive surplusage the features of ready removability of the step, and of fastening it against a shoulder above it on the bar.

Precisely these same features existed in the wrench patented to Loring Coes, April 16, 1841, and they contribute nothing to the results of the combination embracing the original invention of Jordan and Smith, the complainant's assignors, which consisted only in

the employment of a nut screwed upon the wrench-bar just below the step, to relieve the wooden handle from the strain of back pressure, and recessed at its lower end to serve as a ferrule for the upper end of the handle, all of which was contained in the prior Dixie wrench

### III. The reissue in suit was taken too long after the date of the original patent to be permitted upon equitable grounds.

The reissued patent upon which this suit is brought was taken February 25, 1873, seven years, four months and fifteen days after the date of the original patent, which was granted October 10, 1865.

If, therefore, the patentees could lawfully have made the changes exhibited by this reissue, provided they had done so seasonably, it is certain that they lost, by reason of gross laches, whatever right they might otherwise have had to take such a reissue.

It may be said that the subject matter of the *first claim* of the *reissue* is more limited in its scope than the first claim of the original patent, by reason of the added feature of removability of the step from the bar without cutting or abrasion of parts. But no one upon reading the specification of the original patent could have known that such limitation was a characteristic of the invention intended to be patented therein; and if without such limitation the first claim of the original patent was too broad and therefore void for want of novelty, the public had the right after the lapse of more than seven years to rely upon the fact that the patent disclosed no invention which could belong exclusively to the patentee.

The *second claim* of the *reissue* in suit is in terms broader than the second claim of the original patent since it omits specific reference to the step E; but if the qualification expressed by the concluding phrase "for the purpose set forth" makes its subject matter still more limited than that of the second claim of the original patent, the same observations apply to it as to the first claim of the reissue.

In other words, if the novelty of the second claim of the reissue is to depend upon the performance by the nut F of all the functions ascribed to it in the amended specification, including the capacity of

allowing the step to be removed from the bar without cutting or abrasion of parts, and the office of fastening the step to the bar by holding it up rigidly against a shoulder upon the bar, then such limitations, which were not indicated in the original patent as constituting essential characteristics of the invention intended to be patented, bear just as hard upon the public as would the expansion of a claim by the removal of limitations previously stated.

The *third claim* of the *reissue* in suit is undoubtedly broader in its terms than the third claim of the original patent, since it omits all mention of the screw-rod and the rosette thereon, as elements of the combination specified.

But it differs even from the first claim of the original patent in that it contains the limitation implied by the function performed by the nut F, in rigidly fastening the step to the bar. Whether this makes the shoulder upon the bar just above the step an element of the combination claimed or not, there can be no question that no such feature was specified in the original patent as constituting an essential characteristic of the invention intended to be patented, and that the change imported into the reissue after so long delay is just as inequitable as any other restatement of the invention.

The point here contended for is this: The public is entitled to rely upon the statements made in an original patent as to the nature and scope of the invention therein claimed, unless corrected and amended with reasonable diligence and in good season.

Even if the invention so claimed happens to have been anticipated by the prior state of the art, the patentee may, by want of diligence and unreasonable delay, lose his right to take a reissue for the purpose of restating the invention in more limited terms, in the same way that he may lose his right to claim by reissue a broader invention than was claimed in his original patent.

Knowledge of the prior state of the art is to be imputed to the public; for an invention cannot be legally anticipated by what is not publicly known. Consequently, when a patentee claims in his origi-

nal patent an invention which is not truly his, the public is presumed to know that no exclusive right is created thereby; and if after the lapse of years the patentee reissues that patent and claims the invention with limitations which were not before specified as essential characteristics of it, he works as great a surprise upon the public as he would by taking a reissue for a broader invention than that for which his original patent had been granted.

The standing of each of these patentees before a court of equity would be the same; and they would be equally amenable to the law of laches. It is respectfully submitted, therefore, on behalf of the defendants in the present case, that the complainant's reissued patent is void, among other reasons, for the long time which was suffered to elapse before the amendments contained in it were made.

## IV. The question of infringement.

If the claims of the patent in suit were so construed as to embrace only the specific features by which the structure described as embracing the invention sought to be patented is distinguished from what had preceded it in the art, then they would not be infringed by the defendants' manufacture complained of.

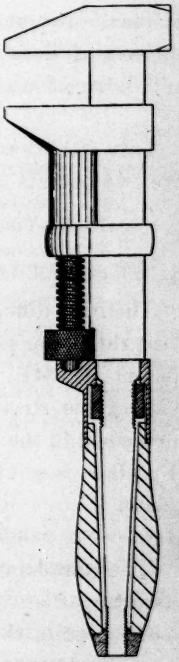
It has already been shown that the wrench described in the complainant's patent in suit resulted from the application of the recessed nut of the Dixie wrench to the wrench described and shown in the patent to Loring Coes, April 16, 1841; and it will be seen, upon inspection of the claims of the patent in suit, that the combination specified in each one of them contains as an element "the nut F," which is precisely in every particular the recessed nut used upon the prior Dixie wrench for the very same purposes, although not in connection with a separate plate of metal for a step.

If, therefore, "the nut F," mentioned in each of these claims, be held to consist of the entire device so designated, including the recess at the lower end to serve as a ferrule for the top of the handle; then the charge of infringement made in this suit would not hold, because the wrenches of defendants' manufacture herein complained

of do not contain the nut F of the patent in suit, nor any nut with a recess in it to serve as a ferrule for the top of the handle.

In the defendants' wrench the ferrule for the top of the handle is forged upon the lower part of the step-plate, and both are of the same piece of metal as in all so-called Coes wrenches manufactured since before 1850.

*See* EXHIBIT DEFENDANTS' MANUFACTURE (a wrench put in evidence by stipulation), p. 15 [*Tr. Rec.*].
*See also* EXHIBIT COES WRENCH ORIGINAL MANUFACTURE (an original specimen made before 1850). Joshua S. Wheeler, int. 2, pp. 23, 24 [*Tr. Rec.*].



DEFENDANTS' MANUFACTURE COMPLAINED OF.

And the defendants' wrench complained of resulted from the employment of a simple nut upon the bar of such an old Coes wrench underneath the step and within the ferrule depending therefrom, instead of resulting from the application of the recessed nut of the Dixie wrench to the wrench of Coes' 1841 patent, wherein no ferrule depended from the step-plate.

These differences are sufficient to take the defendants' structure out of scope of the claims of the patent in suit, if the latter are to avail for just what was done by the original patentees and no more.

Furthermore, if the fact that in the Dixie wrench the step is of the same piece of metal as the nut which supports it, be insisted on as constituting a material and substantial difference between that prior structure and the subject matter of the claims of the patent in suit, because the step described and shown therein is a separate piece of metal from that of the nut which supports it; then by the same token the defendants' wrench complained of does not contain the nut F of the patent because the ferrule for the top of the handle constitutes no part of it but is of the same piece of metal as the step.

Hervey Waters, ints. 15, 16, pp. 43, 45 [*Tr. Rec.*].

## Details of evidence in respect to the prior state of the art.

### *1. Patent to Loring Coes, April 16, 1841.*

Attention has repeatedly been called in this brief to the fact that the entire structure of the wrench described and shown in the complainant's patent in suit, excepting only the nut F, is exactly like the wrench described and shown in the patent granted to the defendant, Loring Coes, April 16, 1841.

This will at once be apparent upon inspection and comparison of the two patents and their drawings.

Exhibit Complainant's Reissued Patent, pp. 78–80 [*Tr. Rec.*].
Exhibit Coes Original Patent, pp. 80–82 [*Tr. Rec.*].

The only difference between the two structures will be seen to be that the upper part of the handle of the wrench described in Coes' patent of 1841 has a ferrule upon it which bears against the under side of the step-plate, while the top of the handle of the wrench described in the patent in suit terminates in the recess of the nut F, which is screwed on to the bar between the handle and the step-plate.

The complainant has attempted to make out another difference by asserting that the drawing and description of this Coes patent of 1841 require the periphery of the rosette upon the lower end of the adjusting screw-rod to enter a notch in the wrench-bar so far above the upper surface of the step-plate as to make a shoulder upon the bar projecting underneath the edge of the rosette, and thus, as it is alleged, preventing the back pressure from being put upon the step-plate at all. For this reason, the experts for the respective parties differ in their opinions as to whether or not EXHIBIT COES ORIGINAL PATENT WRENCH is a correct exemplification of the structure which it purports to represent.

Hervey Waters, int. 2, p. 31 [*Tr. Rec.*].
James Shepard, int. 1, pp. 55–58 [*Tr. Rec.*].

This is a very small point to make, and quite immaterial if established, because if the drawing of the patent were taken to be absolutely correct and not a mere illustration to be governed by the descriptive language of the specification, there would be interposed between the edge of the rosette contiguous to the wrench-bar and the top of the step-plate merely a fin of metal, which could not by any means offer any substantial resistance to the back pressure exerted by the movable jaw when the wrench was put to use; for there is nothing to show that the part of the wrench-bar which is below the top of the step-plate extends any farther laterally than the part of it which forms the shank for the handle.

But the descriptive language of the specification expressly forbids any such supposed peculiarity of construction.

It is as follows: —

"The screw F [the adjusting screw-rod] has a milled nut G [the rosette] on or near its lower end, which, when the screw is placed in position, passes into a small notch H (represented by dotted lines formed or cut in the side of the shank [the wrench-bar]. The lower side of the nut G [the rosette] rests upon the top of a piece of metal I [the step-plate] which clasps or is applied to and projects from the shank A [the wrench-bar] as seen in the drawing."

Exhibit Coes Original Patent, p. 81 [*Tr. Rec.*].

One of the distinguishing characteristics of this wrench is that the rosette for turning the adjusting screw is always in the same position, so that it can be readily reached by the thumb of the hand which grasps the handle and is thus contrasted with the turning nut of the older wrench shown in Fig. 2 of the drawings, which shifts its position to and from the handle as it is turned to adjust the movable jaw.

In order to keep the rosette of the Coes wrench in place there was needed the notch in the bar to form a little shoulder above it; but no such shoulder was needed below it, because it rested upon the step-plate.

All this is sufficiently indicated by the language of the claim, which is as follows: —

"Combining the screw which operates the sliding jaw (and which is placed on one side of the shank upon which the said jaw moves, and to the extremity of which the hammer jaw is applied) with a female screw formed through a projection from the sliding jaw situated on the same side of the shank with the adjusting screw, the said adjusting screw to be suitably supported, and to have a turning or milled nut placed thereon, a portion of whose edge or periphery shall pass into a notch or other similar contrivance formed in o upon the side of the shank of the wrench so that the said adjusting screw may be always kept in the same position, and when revolved cause the lower jaw to slide on the shank, the whole being arranged and operating substantially as hereinbefore set forth."

Exhibit Coes Original Patent, p. 81 [*Tr. Rec.*].

It will here be seen that the adjusting screw, which includes the rosette upon its lower end, is to be "suitably supported," that is to say, by the step-plate below it, and that the reason for causing the edge of the rosette to pass into a notch upon the side of the wrench-bar is in order that the adjusting screw and the rosette upon it "may be always kept in the same position," or in other words may not be drawn away from the step-plate which supports them.

There is nothing, therefore, in this whole specification to indicate that any part of the wrench-bar projects underneath the edge of the rosette; and any seeming indication of such a thing in the drawing must be controlled by the explicit statement in the specification that "the lower side of the nut G [the rosette] rests upon the top of a piece of metal I [the step-plate]."

*The fact is that the drawing in the reissued patent here in suit exhibits just this same peculiarity of delineation which the complainant seeks to make so much of in the patent of* 1841 *to Loring Coes, and that, too, without any controlling language in the specification.*

In other words, the notch in the bar of the wrench which receives the periphery of the rosette is shown by the drawing as forming not only a shoulder above the rosette, but also a fin below it, projecting between it and the step-plate. Of course this is an insignificant imperfection in the drawing, but it disposes of the criticism made on behalf of the complainant, in respect to the similar defect in the drawing of Coes' patent of 1841.

But the complainant further insists that the reissue of this same patent to Loring Coes, which was taken by him June 26, 1849, furnishes other evidence of such construction that the rosette would prevent back pressure from being put upon the step. If this were so it would be immaterial, since it would not affect the original patent, but the truth is it is not so.

The specification of this reissue of 1849 repeats the statement with superfluous iteration that the rosette is always retained in the same position relatively to the handle of the wrench, so as to be constantly within reach of the thumb of the operator without change in the position of his hand, and this is the only purpose for which it is stated that the notch in the bar, or any suggested equivalent contrivance, is made to engage with the periphery of the rosette.

Exhibit Coes 1849 Reissue, pp. 83–85 [*Tr. Rec.*].

It is evident, therefore, that no shoulder or projection upon the wrench-bar is needed to keep this rosette from shifting its position relatively to the handle in a rearward direction, but only in a forward direction; for the step-plate, supported by the handle and the nut at the extremity of the wrench-bar, would prevent any displacement in that direction sufficient to disturb the relative position of the rosette to the hand and thumb of the operator. In short, the character of the construction referred to must be ascertained by reference to what the patent sets forth as the result to be accomplished; and in this view there is nothing to indicate that the wrench patented to Loring Coes either in 1841 or in 1849 contained any device which would substantially prevent the back pressure exerted by the movable jaw from falling directly upon the step-plate.

### *2. Wrenches manufactured by E. F. Dixie from 1851 to 1854.*

The evidence as to the manufacture by E. F. Dixie of Worcester, Mass., in the years 1851 to 1854, of wrenches like the specimen designated EXHIBIT DIXIE WRENCH, is of the most conclusive character.

This exhibit bears the marks of its authenticity upon it. On one side of its upper jaw is stamped into the iron the words and figures "H. W. HEWET, PATENT, 1840." On the other side of the same jaw is stamped in like manner, "E. F. DIXIE, WORCESTER, MS."

A patent granted in 1840 would expire in 1854; and it may reasonably be presumed that an article stamped as patented in 1840 was made not later than 1854.

Furthermore, the witness who produced in evidence the Exhibit Dixie Wrench testifies that he was foreman of E. F. Dixie's shop in Worcester, Mass., in 1852 and 1853; that he took this wrench from that shop in 1853, and that it had been in his possession ever since then until he gave his testimony.

George W. Wakefield, ints. 2–5, pp. 19, 20 [*Tr. Rec.*].

Three other witnesses identify the Exhibit Dixie Wrench as the same in construction as wrenches manufactured in E. F. Dixie's shop in Worcester, Mass., during the years 1851 to 1853. Two of these witnesses were employed in that shop at that time, and worked upon the wrenches so manufactured there. The other witness forged wrench-bars for E. F. Dixie during the same period, was familiar with his manufacture, and in 1853 occupied a part of his shop for a while.

Edmund Crosby, ints. 2–7, pp. 21, 22 [*Tr. Rec.*].
Henry S. Crosby, ints. 2–9, p. 26 [*Tr. Rec.*].
George C. Taft, ints. 2–5, pp. 27, 28 [*Tr. Rec.*].

Thus it appears that all these witnesses were in a situation to know just what was the construction of the wrenches manufactured by E. F. Dixie, and to be able to identify the Exhibit Dixie Wrench as a correct specimen of that manufacture.

Moreover, the testimony of these witnesses shows that this was an established manufacture; that it produced from two hundred to four hundred wrenches per week, and that it did not cease until E. F. Dixie's shop was burned in 1854.

George W. Wakefield, int. 8, p 20; cross-ints. 14, 15 [*Tr. Rec.*].
Edmund Crosby, int. 11, p. 22 [*Tr Rec.*].
Henry S. Crosby, int. 10, pp. 26, 27 [*Tr. Rec.*].
George C. Taft, int. 4, p. 27 [*Tr. Rec.*].

The wrenches so manufactured were of various sizes, and they were known as the "Hewet Wrench," as the patent stamp upon the Exhibit Dixie Wrench indicates.

George W. Wakefield, int. 8, p 20 [*Tr. Rec.*].
Edmund Crosby, int. 4; ints. 6–9, p. 22 [*Tr. Rec.*].
Henry S. Crosby, int. 4, p. 26 [*Tr. Rec.*].

Thus the proof of the manufacture of such wrenches as Exhibit Dixie Wrench long prior to the alleged invention of Lucius Jordan and Leander E. Smith, set forth in the original patent upon which the reissue in suit is founded, is made out beyond any reasonable doubt, and indeed the admission of the complainant in its attempted disclaimer filed in the Patent Office, August 9, 1880, shows that the fact is uncontroverted.

Certified copy of Disclaimer, p. 11 [*Tr. Rec.*].

One other point calls for comment, and it is this: that in the original specimen Exhibit Dixie Wrench the wooden handle happens not to have its top entered within the recess of the nut above it; but this is evidently a mere defect in the piece of wood used for this particular handle. The recess in the nut was manifestly intended as a socket to receive the top of the handle, so that the lower part of the nut might serve as a ferrule, and the testimony of the workmen who were engaged in the manufacture shows this to be the fact.

Edmund Crosby, ints. 13, 14, pp. 22, 23 [*Tr. Rec.*].
Henry S. Crosby, int. 9, p. 26 [*Tr. Rec.*].

It stands proved, therefore, and the court below was abundantly justified in finding the fact to be, that the Hewet wrenches manufactured by E. F. Dixie in the years 1851 to 1853 or 1854 contained a recessed nut screwed upon the wrench-bar for the purpose of relieving the wooden handle from back pressure put upon the step, and of serving as a ferrule for the top of the handle, and that such recessed nut was the same in construction and performed substantially the same offices in the same way as the recessed nut F described in the complainant's patent in suit.

Respectfully submitted,

GEO. L. ROBERTS,
*of Counsel for Appellees.*

# Supreme Court of the United States.

OCTOBER TERM, 1888.

No. 164.

## THE COLLINS COMPANY,

APPELLANT,

*v.*

## LORING COES AND MELVIN O. WHITTIER.

*APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE DISTRICT OF MASSACHUSETTS.*

## SUPPLEMENTARY BRIEF FOR THE APPELLEES.

GEORGE L. ROBERTS,
*of Counsel for the Appellees.*

BOSTON:
ALFRED MUDGE & SON, LAW PRINTERS, 24 FRANKLIN STREET.
1889.

# Supreme Court of the United States.

No. 164. OCTOBER TERM, 1898.

THE COLLINS COMPANY, APPELLANT
*v.*
LORING COES ET AL.

## SUPPLEMENTARY BRIEF FOR APPELLEES.

In appellant's brief under the heading "The so-called Dixie wrench" (pp. 30 to 41) the statement is made and persistently reiterated that the Exhibit Dixie Wrench produced in evidence by the witness George W. Wakefield, as an original specimen of the wrenches manufactured by E. F. Dixie, of Worcester, Mass., in 1853, "*has no nut whatever at the upper end of the handle.*"

Precisely what counsel for the appellant means by such statement it is difficult to conjecture; for inspection of the thing itself will make evident to the senses of sight and touch that the Exhibit Dixie Wrench *does* have a nut screwed upon the wrench-bar between the upper end of the handle and the rosette on the lower end of the adjusting screw-sleeve.

Considering this fact, and in view of the further fact that throughout the evidence contained in the Transcript of Record there is not a hint or suggestion that the Exhibit Dixie Wrench does not contain a recessed nut, screwed upon the wrench-bar above the handle, it seems unaccountable that counsel for the appellant should now state in his brief (p. 30) "The Dixie wrench *as produced in evidence has no nut*," and that referring to the witness, George W. Wakefield, he should now say (Appellant's Brief, p. 34): "Yet he produces a wrench made there in 1853, Defendants' Exhibit Dixie

Wrench, in which the ferrule at the upper end of the handle is *not* a nut."

When the construction of this exhibit was described by the late Hervey Waters, an expert whose ability and integrity was well and widely known to the Courts of the United States for more than the period of a generation, he left no doubt as to the nut in question.

His testimony upon this matter was as follows: —

"*Int.* 6. For the purpose of further classification of prior wrenches will you point out the resemblances and differences between the defendant's Exhibit Dixie Wrench and the Coes wrench, including both varieties illustrated by the exhibits defendant's Coes Original Patent Wrench and defendants' Taft Patent Wrench.

*Ans.* This Dixie wrench is much like the Merrick wrench, differing from it only in the fact (so far as the operation of the wrench is concerned) that in the Merrick wrench the clasp, which is connected with the inner jaw which surrounds the nut, is replaced in the Dixie wrench by a nut which surrounds a sleeve screw, or a screw which constitutes a sleeve surrounding the bar of the wrench, so that the adjustment is made by turning the screw upon the bar of the wrench and within a nut, instead of by turning the nut upon a screw upon the bar of the wrench. In consequence of this difference the adjustment can be and is made by means of a rosette upon this screw-sleeve, which rosette is corrugated upon its periphery, and can be and is operated substantially as the rosette is operated in the Coes wrench, the rosette always remaining in the same position as in the Coes wrench. But it should be observed here that the rosette is not in the same position in the Coes wrench that it is in the Dixie wrench.

Moreover, *in this Dixie wrench*, the end-thrust, due to the strain upon the jaws of the wrench, being thrown upon this screw-sleeve, tends to thrust the screw towards the handle end of the lever of the wrench, *and in the use of the wrench that end-thrust is taken upon a nut screwed directly upon the bar or lever of the wrench up against a shoulder thereon, so as to maintain the nut in position.* And in this respect the Dixie wrench differs from all the others inquired of, as well the Coes proper as the Coes-Taft wrench.

Moreover, *in this Dixie wrench* there enters into its construction a wooden handle, which wooden handle, like all the other three, consists mainly of a wooden sleeve surrounding the bar or lever of the wrench, and kept in position by means of a nut at the extreme end of the lever of the

wrench, which wooden sleeve in the Coes wrench proper takes the end-thrust of the jaw, which end-thrust in the Taft wrench is taken upon projections on the bar of the wrench before the step-plate; *while in this Dixie wrench it is taken directly upon a nut immediately behind the screw-sleeve.*

Moreover, *this nut in the Dixie wrench has upon it a flanch, or to describe it otherwise, it is recessed next to the handle*, so that it might receive the handle and serve for a ferrule to the handle; *but the handle does not enter the recess so that the flanch serves as a ferrule in this Dixie Exhibit.*"

Hervey Waters, dep. pp. 33, 34. [*Tr. Rec.*].

It will be seen, therefore, that this expert had the Exhibit Dixie Wrench before him when he thus gave his testimony, and that he stated explicitly that upon the wrench-bar of that exhibit immediately below the adjusting screw-sleeve and above the handle, there was screwed a nut which took the end-thrust of the strain upon the jaws and which was recessed at its lower end; but that he also stated that in this particular exhibit the upper end of the handle did not enter within the recess of the nut.

This defect in the handle of the Exhibit Dixie Wrench was referred to by Judge Lowell in his judicial opinion of July 24, 1880; but he recognized the fact that the exhibit contained the recessed nut screwed upon the wrench-bar, and gave effect to that fact by holding the second claim of complainant's reissue in suit to be defeated by it.

The language of that opinion in relation to this matter is as follows:—

"There is a disputed question of fact whether the Dixie wrench had a nut which resembled the plaintiff's. That was not a patented tool, but was made and sold to a considerable extent before the Coes wrench became known. It seems to me to be proved that this wrench was sometimes made with a nut, into which the handle of the wrench was inserted; but it was not always made so, and the specimen in court does not have that construction.

The Dixie wrench defeats the second claim of the reissued patent in suit, which is broadly for a nut combined with the wrench bar, and recessed to receive the handle."

Opinion of the court (July 24, 1880), p. 150. [*Tr. Rec.*]

By omitting the closing paragraph of the above quotation counsel for appellant seeks in his brief (p. 31) to convey the impression that Judge Lowell intended to say that the specimen of the Dixie wrench in court did not have a recessed nut screwed upon the wrench-bar above the handle; but such was not the learned judge's language nor his meaning.

He intended to say and did say that the specimen in court did not have the handle of the wrench inserted into the recess of the nut, as the expert, Hervey Waters, had explicitly testified; but notwithstanding this defect in the wooden handle of the specimen of the Dixie wrench in court, the learned judge was satisfied from the evidence that the recess in the nut was made to receive the top of the wooden handle, and that sometimes, at least, in the manufacture as it was originally carried on, the handles of these Dixie wrenches were, in fact, inserted into the recesses of the nuts above them.

Counsel for the appellant cross-examined Mr. Hervey Waters after the latter had testified in relation to the construction of the Exhibit Dixie Wrench, as hereinabove quoted; but not a word was uttered which indicated that counsel for the appellant had any grounds for disputing the fact that the construction of the exhibit had been correctly described.

Hervey Waters's dep., pp. 47–52. [*Tr. Rec.*]

Furthermore, during the examination of the witnesses George W. Wakefield, Edmund Crosby, Henry S. Crosby, and George C. Taft, who testified about this Exhibit Dixie Wrench, it was constantly assumed in the interrogatories put, and shown in the answers given, that the particular specimen so marked, and there present, had the recessed nut in question screwed upon the wrench-bar; but no dissent therefrom was expressed by counsel for the appellant either in his cross-examination of these witnesses, or in any statement by him put upon the record.

Transcript of Record, pp. 19–30.

Finally, it is to be observed that while the evidence for defendants was closed March 3, 1879, counsel for the appellant did not

begin to put in complainant's evidence in reply until July 16, 1879, and did not close it until July 23, 1879.

Transcript of Record, pp. 47, 52, 55, 72.

Meantime this Exhibit Dixie Wrench was of course accessible to counsel for appellant and his experts, and was presumably examined by them; but not a word of objection or comment was made upon the record, tending to throw any doubt upon the fact that Mr. Hervey Waters had described that exhibit correctly in every particular.

The statements, therefore, in appellant's brief that the Exhibit Dixie Wrench "has no nut whatever at the upper end of the handle," or that in the Exhibit Dixie Wrench "the ferrule at the upper end of the handle is not a nut," must surely have been intended to be understood only "in a Pickwickian sense."

It now remains to consider the testimony of the witnesses who identified the Exhibit Dixie Wrench as a specimen of the manufacture carried on by E. F. Dixie at Worcester, Mass., in 1851 to 1854.

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## DEPOSITION OF GEORGE W. WAKEFIELD.

[Transcript of Record, pp. 19-21.]

"*Int.* 1. What is your name, age, residence and occupation?

*Ans.* My name is George W. Wakefield; I am forty-nine years old; I live in Worcester, Mass., and am a machinist.

*Int.* 2. Have you ever been engaged in the manufacture of wrenches; and if so, when and where?

*Ans.* I have; in Worcester, in 1852 to 1853.

*Int.* 3. What were the wrenches which you manufactured at that time, and did you carry on the business for yourself, or by whom was it carried on?

*Ans.* The wrench known as the Hewitt wrench. I was employed by E. F. Dixie as foreman of his shop.

*Int.* 4. Have you a wrench such as manufactured at the time stated, in the shop of E. F. Dixie; if so, will you please produce it, and state when it was made?

*Ans.* I have. It was made in 1853. I produce it to be marked 'Defendants' Exhibit Dixie Wrench.'

*Int.* 5. Where did you procure this wrench? Give a history of it since you have had it.

*Ans.* I took it from the shop that I was employed in, in 1853, and it has been in my possession ever since, never having been in use, only what I have used it in my house.

*Int.* 6. State whether the wrench has ever been taken apart while in your possession; if so, when, and under what circumstances.

*Ans.* It has never been taken apart until yesterday. I took it apart to show the counsel how it was put together."

Of course, a specimen of manufacture authenticated as this was by such testimony was of much greater value as evidence than the mere unaided recollection of witnesses; and if it had not contained the main feature in controversy, namely, a recessed nut screwed upon the wrench-bar above the wooden handle, it is inconceivable how counsel and experts for the respective parties could all have overlooked such a miscarriage of the defendants' contention. The direct examination of the witness continues as follows: —

"*Int.* 7. In making these wrenches at the shop of Mr. Dixie, will you state in what way the ferrule, which is just back of the rosette on the worm, or adjusting screw, was applied?

*Ans.* It was screwed on when I first took charge of the shop, and was never done in any other way. The ferrule was screwed on so as to leave enough play for the worm or adjusting screw to work easy. These shanks were cut with a die; the ferrule was tapped out with a regular tap, which we usually screwed on to its proper place with a wrench.

*Int.* 8. To what extent were wrenches like this one marked 'Dixie Wrench' manufactured in the shop of E. F. Dixie while you were foreman there, and in what variety of sizes, as far as you remember?

*Ans.* To the best of my knowledge, I should say three or four hundred a week. The sizes run 12, 15 and 21; mostly 12s."

Now, if the Exhibit Dixie Wrench so produced and referred to did not have its ferrule screwed on to the wrench-bar, as described by this witness, would counsel for the appellant have failed to notice such a thing upon cross-examination? Yet, he proceeded as follows: —

"*Cross-Int.* 9. State, as exactly as you can, the month and day of the month when you so commenced to work for Mr. Dixie, and the month, with the day of the month, so near as you can, you ceased to work for Mr. Dixie.

*Ans.* I can't give the day, but I commenced to work for him in September, 1852, — somewhere near the middle or latter part. I left him in August, 1853, — the date I don't remember; it was somewhere about the middle or latter part.

*Cross-Int.* 10. Do you give those dates wholly from memory?

*Ans.* I do; and circumstances connected with it.

*Cross-Int.* 11. That is, you have no written memoranda of these dates?

*Ans.* Nothing of the kind with me here.

*Cross-Int.* 12. Where was Mr. Dixie's shop located in Worcester, and how many men were employed?

*Ans.* His shop, when I commenced work for him, was on the corner of Union and Exchange Streets, and afterwards he moved in a shop on Union Street, — that would now be the corner of Union and Foster Streets. I should say he employed from eight to twelve men and boys together.

*Cross-Int.* 13. Were all those men and boys employed in making wrenches of the style of this Dixie wrench?

*Ans.* Yes.

*Cross-Int.* 14. Did the manufacture of the Dixie wrench cease when you left Mr. Dixie?

*Ans.* It did not.

*Cross-Int.* 15. How long after you left was that manufacture carried on, if you know?

*Ans.* To the best of my knowledge, until 1854, when he was burnt out.

*Cross-Int.* 16. What were the average daily wages of the men, and what the average daily wages of the boys employed by Mr. Dixie while you were with him?

*Ans.* All the work was jobbed out. Most of the men hired their own boys. About their average pay I couldn't say; perhaps in the neighborhood of $1.50 or $2.00 per day.

*Cross-Int.* 17. Do you mean that as the average pay of the men and boys both?

*Ans.* I don't know about the boys, because the boys were hired by the men who did the job work. My previous answer refers to the pay of the men.

*Cross-Int.* 18. How many of the force were men and how many were boys?

*Ans.* I should say there were seven or eight men and the balance were boys.

*Cross-Int.* 19. Do you know the cost of the labor on a 12-inch Dixie wrench at the time you worked for Mr. Dixie?

*Ans.* I don't remember.

*Cross-Int.* 20. Where were the wooden handles procured for those Dixie wrenches?

*Ans.* The handles were turned right in the shop."

This concludes the cross-examination, from which it will be seen that counsel for the complainant could find no better subjects of inquiry than dates, locations, mode of carrying on business, and wages, by which to aid in further investigation of the correctness of the testimony. He drew out the facts that the manufacture was an established one; that it must have been well known; and that there could be no difficulty in finding out whether the witness had truly testified.

The direct examination resumed was as follows: —

"*Int.* 21. Is Mr. E. F. Dixie now living?

*Ans.* He is not.

*Int.* 22. Was everything pertaining to the manufacture of these Dixie wrenches done in his shop?

*Ans.* Everything with the exception of the forging and casting."

This serves to explain why Mr. E. F. Dixie himself was not produced as a witness; and also that all the work which it is important to inquire about was done in his shop.

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## DEPOSITION OF EDMUND CROSBY.

[Transcript of Record, pp. 21–23.]

"*Int.* 1. State your name, age, residence, and occupation.

*Ans.* Edmund Crosby; I am fifty-nine years old; I live at South Hadley Falls, Mass., and am a shopkeeper.

*Int.* 2. Were you ever in the employ of E. F. Dixie, at Worcester, Mass.; if so, when first, and where was his shop?

*Ans.* I was in his employ in 1850; his shop was in South Worcester.

*Int.* 3. What did he manufacture at that time while his shop was at South Worcester?

*Ans.* Monkey wrenches.

*Int.* 4. Of what kind?

*Ans.* They were called the Hewitt wrench.

*Int.* 5. Please look at the wrench now shown you, marked 'Dixie Wrench,' and state how it agrees with or differs from the wrench which was manufactured in E. F. Dixie's shop at South Worcester.

*Ans.* We didn't make but very few of this size there. We made 6, 8 and 10-inch mostly. We made a few of these 12-inch. They were all like this, only the ferrules were thin and were drove on to the end of the handle, and that driven on to the end of the wrench-bar."

Note that the witness has thus far been speaking of his employment in 1850 at E. F. Dixie's shop in *South* Worcester, where, he says, but few 12-inch wrenches were made, and where the 6-inch, 8-inch, 10-inch and the few 12-inch wrenches all differed in construction from the 12-inch Exhibit Dixie Wrench, in not having any nut or ferrule screwed upon the wrench-bar. This was from one to two years before the witness, George W. Wakefield, became foreman of E. F. Dixie's shop at another place, namely, on the corner of Exchange and Union Streets in *Worcester*, *not South* Worcester.

Counsel for the appellant therefore in his criticism upon the answer last above quoted, entirely misapprehends the meaning of it.

Reference is therein made to a time antecedent to that in which was adopted a ferrule-nut for the wrenches, and to a shop occupied previously to the one on the corner of Exchange and Union Streets in Worcester.

The next interrogatory and answer make this indubitably clear:—

"*Int.* 6. Do you know whether or not wrenches like that marked 'Dixie Wrench,' with the ferrule screwed upon the wrench-bar, were manufactured by E. F. Dixie; if so, when, and where was his shop; and what was the occasion of it?

*Ans.* They were in 1851. His shop was on Exchange and Union Streets. He had been to New York, and somebody who had bought them had found

fault about the handle shoving back, and wanted to know if he could n't have them screwed on the 10 and 12-inch. They had been screwed on the 15s and 21s before, but I had never manufactured any of them."

It thus appears that in 1851, E. F. Dixie's shop had been removed from South Worcester to the corner of Exchange and Union Streets in Worcester; that in this latter place there had been manufactured 15-inch and 21-inch wrenches with ferrule-nuts screwed on to them, and that it was found desirable to do the same thing to the 10-inch and 12-inch wrenches.

Obviously the larger wrenches being subjected to greater strains would show the need of screwing the ferrules on before the smaller sizes; and the witness states explicitly that in 1851 wrenches like the Exhibit Dixie Wrench, which was recognized as having its ferrule screwed on to the bar, were manufactured at the shop on Exchange and Union Streets.

The testimony of this witness continues as follows: —

"*Int.* 7. What part of the work did you do in the manufacture of the Dixie wrenches?

*Ans.* I used to do some of all of it. I had the contract, and hired the help.

*Int.* 8. How much did Mr. Dixie pay you for each wrench?

*Ans.* Thirty-three cents for the four smallest sizes. I think it was $1.25 for the 15s and 21s; I am not positive. I think that 15s and 21s were the same price.

*Int.* 9. Did he always pay you the same price for the four small sizes?

*Ans.* Two of the small sizes, 10 and 12, he paid me one cent extra for cutting the screw on the bar, tapping out the ferrules, and putting them on."

No witness could be better qualified to testify about such a matter. The extra work for cutting the screw on the wrench-bar and of tapping out the ferrule to form the female screw therein, brought him additional compensation; and these two circumstances cohering in his memory made it doubly reliable.

His testimony continues as follows: —

"*Int.* 10. Up to what time were you in the employ of Mr. Dixie?

*Ans.* I quit him sometime in 1853.

*Int.* 11. While you were in his employ to what extent were wrenches like that marked 'Dixie Wrench,' having the ferrule screwed upon the shank, manufactured?

*Ans.* Three hundred a week was the contract.

*Int.* 12. Was there any difference in the appearance of the ferrules used upon these Dixie wrenches; whether they were intended to be driven on to the shank or screwed upon it?

*Ans.* There was a difference in the looks of them. Those that were drove on were longer; they were tapering and you couldn't get a good fit on them."

The witness here shows that there was in his recollection a recognizable distinction in external appearance between the ferrule which was driven on, as in the earlier manufacture, and the ferrule which was made into a nut and screwed on, as in the later manufacture. This is an additional reason for trusting his memory.

And now attention is called to the testimony of the same witness in relation to the defect in the upper part of the wooden handle of the Exhibit Dixie Wrench, by reason of which it does not enter into the recess of the ferrule-nut.

"*Int.* 13. Will you please look at the ends of the wooden handle upon the wrench marked 'Dixie Wrench,' and state whether it agrees in construction with all the handles which were used upon the Dixie wrenches manufactured by you?

*Ans.* It does not with any of them that I see put on.

*Int.* 14. State how it differs.

*Ans.* There was a shoulder cut on the upper end, one-sixteenth of an inch long, to drive into the ferrule, and the lower end used to fit into the tip or nut."

Here is an explicit statement that in practice the top of the handle was made to enter within the recess at the bottom of the ferrule-nut; and not only so, but that the lower end of the handle was in like manner made to fit into the socket or recess formed in the upper end of the nut which went on to the extremity of the wrench-bar.

Evidently the socket or recess in each of these nuts was made for the very purpose of receiving the end of the handle which came next to it, and Judge Lowell was warranted, from the very nature of the structure itself, in holding that the handles of these wrenches were inserted in the recesses of the ferrule-nuts.

The testimony on direct examination concludes with the following: —

"*Int.* 15. You say, in answer to int. 11, that the contract was to manufacture three hundred wrenches per week like the wrench marked 'Dixie Wrench.' How nearly did you come to the contract in the manufacture?

*Ans.* I couldn't tell exactly. I think we got out two-thirds of it."

The cross-examination of this witness by the same counsel who now appears for the appellant, was as follows: —

"*Cross-Int.* 16. How many wrenches in all did you make for Mr. Dixie, in which the ferrule under the rosette was screwed upon the bar?

*Ans.* I could not tell you.

*Cross-Int.* 17. Can you not tell approximately whether it was one, one hundred or one thousand?

*Ans.* I should think it was more than one thousand.

*Cross-Int.* 18. Did the manufacture of wrenches with that ferrule screwed upon the bar commence after you went to work for Mr. Dixie?

*Ans.* The first that I heard of it.

*Cross-Int.* 19. When you first went to work for Mr. Dixie were his wrenches made with that ferrule driven upon the bar?

*Ans.* I think they were."

This confirms the testimony of the witness on direct examination, and shows that in 1850 when he first went to work for E. F. Dixie in the shop at South Worcester, the ferrules were driven and not screwed upon the bars of the wrenches; that afterwards the wrenches were made with ferrules screwed upon their bars; that wrenches so constructed were manufactured to the number of many hundreds; and that counsel for the appellant then raised no question that the Exhibit Dixie Wrench which was constantly referred to during the examination, had its ferrule screwed upon its bar at the upper end of the handle.

## DEPOSITION OF HENRY S. CROSBY.

[TRANSCRIPT OF RECORD, PP. 26, 27.]

"*Int.* 1. State your name, age, residence, and occupation.

*Ans.* My name is Henry S. Crosby; I am fifty-four years old; I live in Georgetown, Conn., and am a wire-puller.

*Int.* 2. Were you ever employed in the shop of E. F. Dixie, at Worcester, Mass.; if so, when? And mention the circumstances under which you first went there.

*Ans.* I went to work there for my brother, in 1851, at South Worcester.

*Int.* 3. How long were you employed in the shop of E. F. Dixie, and what work did you do there?

*Ans.* I was employed there from 1851 to 1853; the first three months I knocked round and done anything; after that, I made the worms and turned the bars, prepared them for cutting the threads for wrenches.

*Int.* 4. What were the wrenches which you assisted in making while you were employed in Mr. Dixie's shop?

*Ans.* They were called the Hewitt wrench.

*Int.* 5. What, if anything, enables you to say that it was in 1851 that you went to work for your brother in Mr. Dixie's shop?

*Ans.* Because I had just come home from sea and found him to work there, and he wanted I should go to work for him."

It should be noted here that when this witness first went to work with his brother in 1851 the shop of E. F. Dixie was still in *South* Worcester; but that before he saw wrenches with ferrules screwed upon their bars, that shop had been removed to the corner of Exchange and Union Streets in *Worcester*, as the next succeeding interrogatory and answer will show.

His testimony proceeds as follows: —

"*Int.* 6. Please look at the wrench marked 'Dixie Wrench,' and say if you ever saw one made like that, with the ferrule screwed upon the shank of the wrench, as therein constructed; and, if so, when first, and where?

*Ans.* I have seen a great many such wrenches; in 1851, I think, I first saw them at Worcester, corner of Exchange and Union Streets, in E. F. Dixie's shop."

This corroborates the testimony of his brother, Edmund Crosby, that the wrenches manufactured at the first shop, in South Worcester, did not have their ferrules screwed on; and it further serves to show how pointless is the criticism of counsel for appellant upon the answer of Edmund Crosby to direct-interrogatory 5 of his deposition, wherein he refers to the manufacture carried on in E. F. Dixie's shop while it was at South Worcester.

The direct examination of Henry S. Crosby proceeds as follows: —

"*Int.* 7. While employed in Mr. Dixie's shop did you have anything to do with the manufacture of wrenches like Exhibit Dixie Wrench; if so, what?

*Ans.* I made the worms, and turned the bars ready for cutting the threads.

*Int.* 8. How does the wrench, Exhibit Dixie, agree in construction with those manufactured at his shop while you were employed there, and which you assisted in making?

*Ans.* I should think it agreed with them.

*Int.* 9. Please state what difference, if any, you find between this wrench, marked 'Dixie Wrench,' and those which you assisted in making at Mr. Dixie's shop at the time you were employed there.

*Ans.* I don't find any difference, only the handle. It used to, if I remember right, shut down into the ferrule a trifle.

*Int.* 10. During the time that you were employed at Mr. Dixie's shop, to what extent were wrenches like the one marked 'Dixie Wrench' manufactured there?

*Ans.* Well, I should think from two to four hundred a week."

Here ends the testimony of this witness. There was no cross-examination, and the repeated references to Exhibit Dixie Wrench with the understanding, express or implied, that its ferrule was screwed upon the shank, makes it evident that counsel for the appellant never dreamed of denying that such was, in fact, the construction of that exhibit.

Furthermore, this witness corroborates his brother in the statement that although the handle of the particular specimen Exhibit

Dixie Wrench did not enter the recess of the ferrule, yet that such was not the case with the wrenches of this construction which he remembered as manufactured.

This matter of the defect of the handle in Exhibit Dixie Wrench, as has already been remarked, is of very slight importance. The presence of a recess in the lower end of the ferrule-nut is of itself good evidence that it was intended to receive the top of the handle; and but little, if any, testimony was needed to show it. The nut at the extremity of the shank contains a similar recess, and is in like manner evidently intended to furnish a socket for the lower end of the handle.

But even if all the handles of the wrenches manufactured in E. F. Dixie's shop from 1851 to 1854 had been precisely like the handle of the Exhibit Dixie Wrench, such a condition of things would have been irrelevant to the issues in this case. The ferrule-nut of Exhibit Dixie Wrench by being screwed upon the bar just above the handle saves the latter from the strain of back-thrust, whether the wood enters within the recess or not; and it is a recessed nut capable of having the top of the handle fitted into it, whether it is availed of for that purpose or not.

In any event, therefore, it anticipated the recessed nut F on the bar of the wrench patented to the complainant, as was found by the court below and as was confessed by the complainant itself in its disclaimer filed in the Patent Office, August 9, 1880, and put in evidence in this case.

Certified Copy of Disclaimer, pp. 10, 11. [*Tr. Rec.*]

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## TESTIMONY OF GEORGE C. TAFT.

[TRANSCRIPT OF RECORD, PP. 27–30.]

"*Int.* 1. State your name, age, residence and occupation.

*Ans.* My name is George C. Taft; I am sixty-five years old; I live in Worcester, Mass., and am a machinist.

*Int.* 2. Please look at the wrench marked 'Dixie Wrench,' and state if you ever saw one constructed like that; and if so, when and where?

*Ans.* I have seen a good many constructed just like it, in the years 1851 and 1852, in E. F. Dixie's shop, corner of Union and Exchange Streets, Worcester.

*Int.* 3. Did you ever have any conversation with Mr. Dixie in regard to the use of a ferrule screwed upon the shank of such wrenches as shown in Exhibit Dixie Wrench; if, so when, and what was the substance of the conversation?

*Ans.* I did, in 1851, at his office on Main Street. He had been to New York and found that some parties found fault with his wrench on account of the pressure driving the ferrule back into the wood of the handle. He made the remark that his workmen didn't half do their work. He brought some of the wrenches home with him. I examined them, and saw at once what the difficulty was, and made the remark that I should screw the ferrule on. I think he put the matter into Mr. Wakefield's hands, and he made the alteration,—Wakefield or Crosby, I won't say which, but it was one of them."

Counsel for the appellant objects that this answer states no facts relevant to the issues here under consideration; but it does state the important fact that in 1851 the witness was made acquainted with the practical difficulties attending the construction of the Dixie wrenches by reason of the effect of back pressure put upon the handles which had not then been adequately protected; and it also states the further fact that the witness then made a suggestion which led to a change of construction.

The statement of the substance of the conversation does not of itself furnish evidence that the change of construction was made; but it explains the natural cause of the change, when the latter is proved to have taken place, as this witness proceeds to show.

His testimony continues as follows:—

"*Int.* 4. Did you have occasion, at any time, to observe the manufacture of wrenches like that marked 'Dixie Wrench' in the shop of E. F. Dixie? If so, to what extent were they manufactured, and what was the occasion of their being brought to your notice?

*Ans.* I have seen them in the shop. I have been in the shop fre-

quently. Being in the wrench business, I forged his bars for him for a considerable time; and being well acquainted, he frequently came to me for advice. The extent of his manufacture I couldn't state positively, but to the best of my judgment, he must have manufactured from two to three hundred a week.

*Int.* 5. Did you have occasion at any time to do any work in Mr. Dixie's shop? If so, what was it and when, as nearly as you remember?

*Ans.* I did. In 1853, in February and March, I finished up all my wrenches that was worth finishing up that went through the fire at the corner of Union and Foster Streets, — or my men did for me, as my shop was burned in 1853, — January 20, I think, as nearly as I can recollect. Mr. Wakefield was foreman for Mr. Dixie at the time."

This witness is the fourth who has testified to the manufacture of wrenches in E. F. Dixie's shop like the Exhibit Dixie Wrench during the years 1851, 1852 and 1853, and he shows that his opportunities for knowing such fact were very considerable. It was assumed by him as well as by counsel for defendants who conducted his direct examination that the Exhibit Dixie Wrench had a ferrule-nut which was screwed upon the bar just above the handle; and the fact was never questioned by counsel for complainant.

The only cross-examination of this witness relating to the subject of the Dixie wrench is as follows: —

"*Cross-Int.* 26. Did you originate the construction claimed in your patent of Nov. 10, 1863, subsequently to the time when you suggested to Mr. Dixie that the ferrule should be screwed upon the wrench-bar?

*Ans.* Yes.

*Cross-Int.* 27. And did you consider that mode of getting the back-thrust to the wrench-bar shown in your patent of Nov. 10, 1863, a substantially different mode from that shown in the Dixie wrench?

*Ans.* I consider it a cheaper way of constructing the wrench than a screw; by that I considered it an improvement over the Dixie or Coes wrench.

*Cross-Int.* 28. Mechanically considered, — that is, looked at as practical mechanics consider such matters, — did you consider the mode of getting the back thrust to the wrench-bar, shown in your patent of Nov. 10, 1863, a different mode from that shown in the Dixie wrench?

*Ans.* I considered it different for this reason, that it was cheaper

made than a screw, and it answered the same purpose; and if the wrench got out of repair it was easier taken apart than a screw, to repair the wrench."

These answers of the witness contain a sufficient reply to the criticism made in appellant's brief (p. 39), that the patent taken by him Nov. 10, 1863, wherein he showed a mode of relieving the handle of a Coes wrench from the strain of back pressure by making shoulders on the wrench-bar upon which projections from the periphery of the rosette could bear, was inconsistent with knowledge by him of a ferrule-nut upon the prior Dixie wrench.

The witness testifies that his mode was cheaper, and, as he thought, more advantageous in other respects; and counsel for the appellant has refrained from quoting this testimony.

The further criticism contained in appellant's brief (p. 39), that the patent taken by George C. Taft in 1858, for a wrench, in which a worm-rosette enmeshed with a screw-rack on the wrench-bar, causing the adjusting screw-rod to traverse up and down, was also inconsistent with any knowledge on his part that the Dixie wrench contained a ferrule-nut screwed upon the wrench-bar, is sufficiently answered by the fact that the wrench described in that 1858 patent was not a Coes wrench.

Transcript of Record, pp. 91–93.

The fact is, although not formally proved in the record, that the patent granted to Loring Coes April 16, 1841, and reissued June 26, 1849, was extended for seven years from the expiration of the original term, and was, therefore, in force until April 16, 1862. This is shown by the official report of the Commissioner of Patents for the year 1855, to the Thirty-fourth Congress, 1st Session, Senate, Ex. Doc. No. 20, Vol. 1, p. 210, and Vol. II, pp. 334, 335. And if the court will take judicial notice of such an official publication, it will sufficiently appear why George C. Taft in 1858 was not engaged in attempting to improve the Coes wrench which he had then no right to use.

The suggestion contained in appellant's brief (pp. 39, 40) that public knowledge of the use of a ferrule-nut, screwed upon the bar of the Dixie wrench in 1851, 1852, and 1853, in the city of Worcester, is inconsistent with the fact that the appellees in the case at bar, did not adopt the construction, which they are now complained of for using, until after the issue of the original patent upon which the reissue in suit is founded, may be met by the reply, *first*, that the construction of Coes wrenches like the Exhibit Coes Wrench, Original Manufacture, in which the step-plate was driven firmly upon the wrench-bar and contained upon its under side a broad ferrule forged integrally with it, was sufficiently stable to answer all ordinary practical requirements; *second*, that the manufacture of a ferrule-nut, like that of the patent here in suit, to screw upon the wrench-bar under a separate step-plate, would necessarily have entailed considerable extra expense which did not need to be undergone until competition might demand it; and *third*, that the construction adopted by the appellees (defendants in the court below) was neither like that of the Dixie wrench nor like that of the wrench described in the patent here in suit, but consisted merely of the introduction of a simple annular nut within the old ferrule upon the old step-plate, without otherwise altering the wrench which had been manufactured by Loring Coes for many years previously.

This simple annular nut could not serve as a ferrule for the handle; needed no exterior finish like the ferrule-nut of the Dixie wrench, and of the wrench described in the patent in suit; and was altogether cheaper to make and apply.

But all this does not alter the fact that the Exhibit Dixie Wrench had upon it when produced in evidence a nut screwed upon its bar immediately beneath the rosette on the adjusting screw-sleeve, and recessed at the lower end, into which the top of a suitably made handle might enter; that the Exhibit Dixie Wrench, so constructed, had been in the possession of the witness, George W. Wakefield, ever since 1853, when he took it from E. F. Dixie's shop, where he was then foreman; and that its construction was identified by three

other witnesses who testified to the manufacture of large numbers of wrenches like it during the years 1851, 1852 and 1853.

This evidence, uncontroverted and undisputed by anything which appears in the record, surely fulfils the requisition of the law that it should establish the fact to which it relates beyond a reasonable doubt.

Respectfully submitted,

GEORGE L. ROBERTS,
*of Counsel for Appellees.*

No. 147

# Supreme Court of the United States.

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|---|---|
| THE ARKANSAS VALLEY LAND AND CATTLE COMPANY, Limited, *Plaintiff in Error,* | *Error to the Circuit Court for the District of Colorado.* |
| *vs.* | |
| JEREMIAH J. MANN, *Defendant in Error.* | |

## Restatement of Errors Assigned in Brief.

I.

The Circuit Court erred in charging the jury as follows:

"I have an instruction from the defendant's counsel to the effect, 'if in your opinion any portion of the testimony is false or untrue, that defeats the whole case.' That is not true unless it appears to you that the cattle never did in fact come here;" and in the same connection in saying, "as I have already stated the object and purposes of that testimony is to show whether the cattle did or did not come into this State, and notwithstanding the failure of any part of the evidence to establish the fact to which it is directed, if you should be of the opinion, nevertheless, that the cattle came into this State, or if only part of them, then some part failure of such testimony would not effect the results."

Record, p. 663. Brief, p. 10.

## II.

The Court erred in refusing to charge the jury as follows:

"Plaintiff claims that he became the owner of a herd of cattle, known as Oregon or Western cattle, by purchase, in the month of October, 1880; that the cattle were then held in the Territory of Wyoming; that afterwards, between that date and the early part of the year 1881, they wandered and strayed from that part of the Territory of Wyoming, and drifted into the State of Colorado in the vicinity of the ranch of one Bloomfield; that the said Bloomfield appropriated and converted the same, and that he afterwards sold and delivered said cattle to the defendant. You are instructed that it is incumbent upon the plaintiff to prove each and every of these facts by a preponderance of evidence in his favor. In determining these questions you are to consider the lateness of the season in which the cattle were turned out and left by the plaintiff; the condition of the country as regards feed at said time; the nature of the country which lay between them and that part of Colorado where it is alleged they were appropriated and converted by the said Bloomfield; the difficulties to be overcome in traversing the range of mountains lying between said cattle and the said portion of Colorado; the severity of the season of the winter of 1880-1881; the probability that the cattle would travel together in company or greatly scatter and disperse before reaching that part of Colorado in the vicinity of Bloomfield's ranch; the probability of death among said cattle growing out of any of the facts here mentioned; and in considering these questions you are to inquire into the probability of the truth and correctness of the testimony of each and every witness who testified in reference to said facts or any of them, and you are to award to each and every witness such credence as in your judgment as reasonable men should be given to said witnesses. If you believe that any of the witnesses upon the part of the plaintiff have sworn wilfully to anything which is not true, you are at liberty not only to reject that part of the testimony of such witnesses which you believe to be untrue, but all the evidence of such witnesses."

Record, p. 671-2, Brief, p. 14.

## III.

The court erred in refusing to charge the jury as follows:

"You are further instructed that where the evidence is circumstantial only greater caution should be exercised in arriving at a conclusion, and where the inference arising from any circumstantial testimony is fairly met or rebutted by other evidence, showing such conclusion to be unfounded or extremely doubtful, such circumstantial evidence should be disregarded."

Record, p. 672, Brief, p. 15.

## IV.

The court erred in refusing to charge the jury as follows:

"If you believe that the evidence of the witness Whitney as to the alleged crossing of a large herd or drove of cattle at or near the junction of the Laramie and the Platte rivers in the month of December, 1880, was false, or if you believe that the testimony of the other witnesses on the part of the defendants, Allen and Gates, who claim to be present at the time mentioned by Whitney, is entitled to greater credence, you must find in favor of the defendant on that question; if you so find, it is incumbent upon the plaintiff to account in some other way and by other evidence for the belief that the cattle in question crossed beyond the said Laramie river in the direction of Colorado, and if the plaintiff has failed by sufficient and satisfactory evidence to otherwise establish the fact that his cattle crossed beyond said stream you must find in favor of the defendant."

Rec., p. 672-3, Brief, p. 15.

## V.

The court erred in refusing to charge the jury as follows:

"If you believe that the testimony of the witness Howe as to the passing of the plaintiff's cattle at his place; the testimony of the witness Whitney as to the alleged crossing of the said cattle at the junction of the Laramie and the Platte; the testimony of the witness Johnson as to the passing of the cattle on his place on Horse Creek; the testimony of the witness Goodwin as to having seen the cattle between his place and Pine Bluff, in Egbert Station; the testimony of the witness Fallon as to the passing of the cattle on his place, are each unsupported by other witnesses as to the particular fact to which they

severally testify, you are not to assume that the testimony of one witness is a corroboration of the testimony of the other, and if you believe that any of the witnesses named testified falsely or was wholly or substantially mistaken in his statement, then the chain of testimony on which the plaintiff bases his claim, to the effect that his cattle wandered or drifted into Colorado is broken, and his theory in that respect cannot prevail."

Rec., 673, Brief, 15–16.

VI.

The Court also erred in charging the jury as follows:

If you find that defendant converted any of the cattle belonging to plaintiff, and that among those converted were cows which either had calves with them at the time of the conversion or afterwards, and before the commencement of this suit, had calves, then you are instructed that the plaintiff is entitled to recover the value of such calves or increase, and you may consider as evidence of the number of such increase the average increase on cattle between the date you may find defendant took possession and the institution of this suit.

Rec., p. 666, Brief p. 60.

VII.

The Court also erred in charging the jury as follows:

If you find for the plaintiff, he is entitled to interest on the amount from the date of the demand, interest according to the Statute of this State at ten per cent. per annum.

Rec., p. 666, Brief p. 61–'2.

VIII.

The Court erred in refusing to charge the jury as follows:

The plaintiff claims that he purchased one of the herds of cattle in question about the eleventh day of October, 1880, from Schlagle and Jordan, and on or about said day received a bill of sale conveying the title of said herd to him; that on or about the said day the cattle were counted out and turned over to him and possession of the same trans-

ferred to him ; if you believe this statement to be untrue, and if, on the contrary, you believe that by the terms of a written contract between the plaintiff and said Schlagle and Jordan, possession was to remain with the seller until the completion of the last payment, and that the possession of the cattle remained with the said Sclagle and Jordan until the month of April, 1881, and that at said time a contract was entered into between said Mann on the one part and the said Schlagle and Jordan on the other, and Messrs. Sheedy and Clark on the other, whereby the said herd of cattle was sold and the possession thereof delivered to the said Sheedy and Clark as security for the repayment of certain advances made by said Sheedy and Clark ; and that some time thereafter, in the month of August, 1881, or thereabouts, the said Sheedy and Clark sold, assigned and transferred to said Schlagle and Jordan all their right, title and interest in and to said herd, and that the same were afterwards held and claimed by said Schlagle and Jordan for the security of the payment of the sum of $22,000 ; that thereafter a suit was instituted in the District Court of Albany County, Wyoming, against the said Schlagle and Jordan for the cancellation of said indebtedness, and that said suit and controversy was not settled or disposed of until some time in the month of November, 1881, or February, 1882, then you are instructed that the possession and the right of possession to said cattle was never in the said plaintiff before such settlement, and if the said cattle in the meantime had drifted out of the said Territory of Wyoming and into the State of Colorado and had therefore been seized, appropriated and converted by one Bloomfield, the right of action to recover for the value of said cattle so seized and converted by said Bloomfield was vested in the said Schlagle and Jordan and not in the said plaintiff, and the said plaintiff cannot maintain this suit to recover the value of the said cattle so alleged to have been converted unless he has shown, by legal and sufficient evidence, an assignment to him by said Schlagle and Jordan of said right of action.

Rec., p. 673–4, Brief, p. 63–'4.

## IX.

The Court erred in refusing to give the following:

" You are further instructed that the paper offered and received in evidence on the part of the said Mann, which was said executed and delivered at the time of settlement between Mann and Schlagle and Jordan, is not an assignment and has not the effect of assigning to

said Mann the said right of action, and he is not entitled to recover for the value of the cattle."

Rec., p. 674. Brief, 64–5.

X.

The Court erred in charging the jury as follows:

"This transaction was to be carried on by the plaintiff, according to the terms of the contract, in the name of Schlagle and Jordan; so far as disclosed on the trial, this was done. In Omaha some dealings were had with Sheedy and Clark, of which it is not necessary to say very much. Schlagle and Jordan, in that transaction, assumed to be the owners of the property. Mr. Mann, the plaintiff here, joining them; but it would seem that the money obtained in that transaction was for Mr. Mann's benefit; and while Schlagle and Jordan were still insisting upon their lien upon the cattle at that time, I believe they agreed to relinquish it to Sheedy and Clark and take other security for the money that was due them, and they were still recognizing the sale that had been made to Mr Mann; and what they were doing was to protect their security. It is not necessary to consider what the rights of Schlagle and Johnson were under these transactions and what position Mr. Mann assumed toward them. For the purpose of this controversy, it may be said in all that took place between the parties and the several contracts that they made, that Mr. Mann became the owner of this herd in the month of October, 1880, as he claims to have done."

Rec., p. 662. Brief, p. 65.

XI.

The Court erred in refusing to grant a new trial, after having decided that the verdict of the jury was erroneous, excessive and unjust, and in substituting its own judgment for that of a jury, in overruling the motion in arrest of judgment, and in entering judgment upon its own finding of facts, without the consent of the parties to the suit.

HUGH BUTLER,
with WM. A. MAURY,
*For Plaintiff in Error.*

No. 147

# Supreme Court of the United States.

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| THE ARKANSAS VALLEY LAND AND CATTLE COMPANY, Limited, *Plaintiff in Error,* *vs.* JEREMIAH J. MANN, *Defendant in Error.* | *Error to the Circuit Court for the District of Colorado.* |

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"I have an instruction from the defendant's counsel to the effect, 'if in your opinion any portion of the testimony is false or untrue, that defeats the whole case.' That is not true unless it appears to you that the cattle never did in fact come here;" and in the same connection in saying, "as I have already stated the object and purposes of that testimony is to show whether the cattle did or did not come into this State, and notwithstanding the failure of any part of the evidence to establish the fact to which it is directed, if you should be of the opinion, nevertheless, that the cattle came into this State, or if only part of them, then some part failure of such testimony would not effect the results."

Record, p. 663. Brief, p. 10.

II.

The Court erred in refusing to charge the jury as follows:

"Plaintiff claims that he became the owner of a herd of cattle, known as Oregon or Western cattle, by purchase, in the month of October, 1880; that the cattle were then held in the Territory of Wyoming; that afterwards, between that date and the early part of the year 1881, they wandered and strayed from that part of the Territory of Wyoming, and drifted into the State of Colorado in the vicinity of the ranch of one Bloomfield; that the said Bloomfield appropriated and converted the same, and that he afterwards sold and delivered said cattle to the defendant. You are instructed that it is incumbent upon the plaintiff to prove each and every of these facts by a preponderance of evidence in his favor. In determining these questions you are to consider the lateness of the season in which the cattle were turned out and left by the plaintiff; the condition of the country as regards feed at said time; the nature of the country which lay between them and that part of Colorado where it is alleged they were appropriated and converted by the said Bloomfield; the difficulties to be overcome in traversing the range of mountains lying between said cattle and the said portion of Colorado; the severity of the season of the winter of 1880-1881; the probability that the cattle would travel together in company or greatly scatter and disperse before reaching that part of Colorado in the vicinity of Bloomfield's ranch; the probability of death among said cattle growing out of any of the facts here mentioned; and in considering these questions you are to inquire into the probability of the truth and correctness of the testimony of each and every witness who testified in reference to said facts or any of them, and you are to award to each and every witness such credence as in your judgment as reasonable men should be given to said witnesses. If you believe that any of the witnesses upon the part of the plaintiff have sworn wilfully to anything which is not true, you are at liberty not only to reject that part of the testimony of such witnesses which you believe to be untrue, but all the evidence of such witnesses."

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The court erred in refusing to charge the jury as follows:

"You are further instructed that where the evidence is circumstantial only greater caution should be exercised in arriving at a conclusion, and where the inference arising from any circumstantial testimony is fairly met or rebutted by other evidence, showing such conclusion to be unfounded or extremely doubtful, such circumstantial evidence should be disregarded."

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The court erred in refusing to charge the jury as follows:

"If you believe that the evidence of the witness Whitney as to the alleged crossing of a large herd or drove of cattle at or near the junction of the Laramie and the Platte rivers in the month of December, 1880, was false, or if you believe that the testimony of the other witnesses on the part of the defendants, Allen and Gates, who claim to be present at the time mentioned by Whitney, is entitled to greater credence, you must find in favor of the defendant on that question; if you so find, it is incumbent upon the plaintiff to account in some other way and by other evidence for the belief that the cattle in question crossed beyond the said Laramie river in the direction of Colorado, and if the plaintiff has failed by sufficient and satisfactory evidence to otherwise establish the fact that his cattle crossed beyond said stream you must find in favor of the defendant."

Rec., p. 672–3, Brief, p. 15.

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The court erred in refusing to charge the jury as follows:

"If you believe that the testimony of the witness Howe as to the passing of the plaintiff's cattle at his place; the testimony of the witness Whitney as to the alleged crossing of the said cattle at the junction of the Laramie and the Platte; the testimony of the witness Johnson as to the passing of the cattle on his place on Horse Creek; the testimony of the witness Goodwin as to having seen the cattle between his place and Pine Bluff, in Egbert Station; the testimony of the witness Fallon as to the passing of the cattle on his place, are each unsupported by other witnesses as to the particular fact to which they

severally testify, you are not to assume that the testimony of one witness is a corroboration of the testimony of the other. and if you believe that any of the witnesses named testified falsely or was wholly or substantially mistaken in his statement, then the chain of testimony on which the plaintiff bases his claim, to the effect that his cattle wandered or drifted into Colorado is broken, and his theory in that respect cannot prevail."

Rec., 673, Brief, 15–16.

## VI.

The Court also erred in charging the jury as follows:

If you find that defendant converted any of the cattle belonging to plaintiff, and that among those converted were cows which either had calves with them at the time of the conversion or afterwards, and before the commencement of this suit, had calves, then you are instructed that the plaintiff is entitled to recover the value of such calves or increase, and you may consider as evidence of the number of such increase the average increase on cattle between the date you may find defendant took possession and the institution of this suit.

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If you find for the plaintiff, he is entitled to interest on the amount from the date of the demand, interest according to the Statute of this State at ten per cent. per annum.

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## VIII.

The Court erred in refusing to charge the jury as follows:

The plaintiff claims that he purchased one of the herds of cattle in question about the eleventh day of October, 1880, from Schlagle and Jordan, and on or about said day received a bill of sale conveying the title of said herd to him : that on or about the said day the cattle were counted out and turned over to him and possession of the same trans-

ferred to him ; if you believe this statement to be untrue, and if, on the contrary, you believe that by the terms of a written contract between the plaintiff and said Schlagle and Jordan, possession was to remain with the seller until the completion of the last payment, and that the possession of the cattle remained with the said Sclagle and Jordan until the month of April, 1881, and that at said time a contract was entered into between said Mann on the one part and the said Schlagle and Jordan on the other, and Messrs. Sheedy and Clark on the other, whereby the said herd of cattle was sold and the possession thereof delivered to the said Sheedy and Clark as security for the repayment of certain advances made by said Sheedy and Clark ; and that some time thereafter, in the month of August, 1881, or thereabouts, the said, Sheedy and Clark sold, assigned and transferred to said Schlagle and Jordan all their right, title and interest in and to said herd, and that the same were afterwards held and claimed by said Schlagle and Jordan for the security of the payment of the sum of $22,000 ; that thereafter a suit was instituted in the District Court of Albany County, Wyoming, against the said Schlagle and Jordan for the cancellation of said indebtedness, and that said suit and controversy was not settled or disposed of until some time in the month of November, 1881, or February, 1882, then you are instructed that the possession and the right of possession to said cattle was never in the said plaintiff before such settlement, and if the said cattle in the meantime nad drifted out of the said Territory of Wyoming and into the State of Colorado and had therefore been seized, appropriated and converted by one Bloomfield, the right of action to recover for the value of said cattle so seized and converted by said Bloomfield was vested in the said Schlagle and Jordan and not in the said plaintiff, and the said plaintiff cannot maintain this suit to recover the value of the said cattle so alleged to have been converted unless he has shown, by legal and sufficient evidence, an assignment to him by said Schlagle and Jordan of said right of action.

Rec., p. 673–4, Brief, p. 63–'4.

## IX.

The Court erred in refusing to give the following:

" You are further instructed that the paper offered and received in evidence on the part of the said Mann, which was said executed and delivered at the time of settlement between Mann and Schlagle and Jordan, is not an assignment and has not the effect of assigning to

said Mann the said right of action, and he is not entitled to recover for the value of the cattle."

Rec., p. 674. Brief, 64–5.

X.

The Court erred in charging the jury as follows:

"This transaction was to be carried on by the plaintiff, according to the terms of the contract, in the name of Schlagle and Jordan; so far as disclosed on the trial, this was done. In Omaha some dealings were had with Sheedy and Clark, of which it is not necessary to say very much. Schlagle and Jordan, in that transaction, assumed to be the owners of the property. Mr. Mann, the plaintiff here, joining them; but it would seem that the money obtained in that transaction was for Mr. Mann's benefit; and while Schlagle and Jordan were still insisting upon their lien upon the cattle at that time, I believe they agreed to relinquish it to Sheedy and Clark and take other security for the money that was due them, and they were still recognizing the sale that had been made to Mr Mann; and what they were doing was to protect their security. It is not necessary to consider what the rights of Schlagle and Johnson were under these transactions and what position Mr. Mann assumed toward them. For the purpose of this controversy, it may be said in all that took place between the parties and the several contracts that they made, that Mr. Mann became the owner of this herd in the month of October, 1880, as he claims to have done."

Rec., p. 662. Brief, p. 65.

XI.

The Court erred in refusing to grant a new trial, after having decided that the verdict of the jury was erroneous, excessive and unjust, and in substituting its own judgment for that of a jury, in overruling the motion in arrest of judgment, and in entering judgment upon its own finding of facts, without the consent of the parties to the suit.

HUGH BUTLER,
with WM. A. MAURY,
*For Plaintiff in Error.*